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ABSTRACT

Rapid expansion of the prison population in Michigan has created concern for consistency, continuity, and articulation within the Michigan Department of Corrections vocational programs, which serve approximately 1,800 prisoners at a time. For this reason, a study was undertaken to determine how vocational education within Michigan's prisons might better contribute to overall providing inmates with marketable skills and thus reducing the "revolving door" syndrome of the prison population. The project used a qualitative research design, including in-depth interviews, observations, and document analysis through site visits to 47 programs at 15 facilities, along with comparisons with programs in other states. Information obtained in the study was grouped into nine major themes that were used as the basis for review of literature and identifying "best practices" upon which to base analyses and recommendations for change. The best practices are as follows: (1) statewide leadership, policy, and direction; (2) interfacility cooperation and communication; (3) partnerships with local educational agencies and employers; (4) facility leadership and policies affecting educational programs; (5) training, experience, and professional development of education staff; (6) intake and assessment procedures; (7) program curricula; (8) instructional delivery system; and (9) assessment and follow-up. (The report contains 123 references and 7 appendixes: list of site visits, interview protocols, number of interviews, classroom observation notes, curriculum materials review, Michigan Correctional Education Program variables, and labor market information. (KC)

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A STUDY OF VOCATIONAL EDUCATION PROGRAMS IN THE MICHIGAN DEPARTMENT OF CORRECTIONS

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A STUDY OF VOCATIONAL EDUCATION PROGRAMS IN THE MICHIGAN DEPARTMENT OF CORRECTIONS

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Executive Summary

Over the past half-century, education and training have been an integral component of the rehabilitative function of American correctional systems. While the overall focus, scope, and degree of these programs have varied over the years, many states have retained some level of academic and vocational education programming within their prisons. Recent studies, however, call into question the efficacy of many of these programs and suggest the need to attend to particular attributes in order to realize successful program outcomes. The effectiveness of academic and vocational programs within a prison context is associated with specific characteristics that can be addressed through careful policy-making, curriculum development, and instructional delivery.

Over the last 15 years, the prison population in the State of Michigan has more than doubled. During this same period, the cost to taxpayers of incarcerating individuals has more than tripled. Presently, over 40,000 individuals are incarcerated in more than 50 facilities around the state. This rapid growth has placed considerable strain on the ability of the Michigan Department of Corrections (MDOC) to effectively meet the educational needs of this burgeoning prison population. About 10,600 individuals are enrolled, at any given time, in an MDOC educational program. Of these, approximately 1,800, or almost 20%, are enrolled in vocational programs.

Purpose and Methods of the Study

The rapid expansion of the prison population has created concern for consistency, continuity, and articulation within MDOC vocational programs. For this reason, a study was undertaken to determine how vocational education within Michigan's prisons might better contribute to the overall goal of providing inmates with marketable skills and, thus, reducing the “revolving door” syndrome so characteristic of the prison population.

The project was guided by a qualitative design, which included the use of in-depth interviews, observations, and document analysis. Site visits were made to 15 different facilities, which provided one or more vocational programs. Facilities were selected on the basis of geographical location, type of programs offered, and level of security. A total of 47 programs were visited, representing nine different vocational areas as well as ABE/GED and Pre-release programs. In-depth interviews were conducted with facility, regional, and central office administrators, vocational teachers, and potential employers. Observations were conducted, when possible, of instruction and materials and equipment were examined. Curricular, instructional, and assessment documents related to each facility program and the statewide program were reviewed. Investigators also participated in statewide curriculum committee and principal meetings, and orientation sessions for the INVEST computer software. To provide perspectives on vocational programming from other states, a site visit was also made to Fox Lake and Oshkosh Correctional Facilities in Wisconsin and personnel from the Orlando and California departments of corrections were interviewed.

Findings and Recommendations

The information obtained in this study was initially reviewed to identify major themes, which seem to characterize major elements of the different programs. These themes were then used as the basis for further reviewing the literature and identifying "Emerging Best Practices" for vocational education within the prison system. These nine Best Practices were then used to further analyze and interpret the findings. The major findings of this project and the recommendations which follow from these findings are summarized below. This summary is organized around the nine Best Practices, which served as the analytic framework for the project.

Statewide Leadership, Policy, and Direction

Interviews indicated that central office personnel and facility administrators did not clearly understand the roles of central office personnel. In addition, turnover at senior levels within positions directly responsible for educational programming has made it more difficult to initiate, sustain, and follow through with efforts aimed at improving the design and delivery of vocational education within the prisons. There was no explicit and clear philosophical perspective to frame and justify vocational education evident at the state level. Central office staff appeared uncertain about various aspects of vocational programming and procedures. Many indicated this uncertainty was influenced by the political environment and a lack of leadership reflective of constant change in upper-level management.

The findings suggest the need for a comprehensive educational strategy that clarifies goals, missions and roles. For these reasons, it is recommended that MDOC undertake a systematic review and revision of the 1995 Education Action Plan. Subsequent implementation strategy should assist in increasing program standardization, delineation of staff roles, enhance communication, reduce funding disparities, and provide a strategic approach that will enhance effectiveness and efficiency throughout the central office and across facilities.

Interfacility Cooperation and Communication

The findings suggest that several factors affect vocational programming that reflect interfacility cooperation and communication. Among these issues are varying interpretations of security needs, transfer policies and procedures, and admission standards, lack of curriculum articulation across sites, variations in availability of funding and other resources to support vocational programming, and little or no contact with the larger vocational community.

Prison administrators and teachers indicated concern for a lack of a standardized curriculum and procedure. Many believed that a standardized curriculum would reduce the "down-time" or delay experienced by inmates who are transferred while enrolled in a vocational program. There is also a need to transfer or receive an inmate's file in a quicker, more efficient manner.

It is recommended that MDOC develop and maintain statewide and regional advisory panels, which could assist in improving communication and the flow of information across prison facilities.

Partnerships with Local Educational Agencies and Employers

The findings suggest relatively little formal involvement of “outside” agencies and groups in the planning, design, and implementation of MDOC vocational programs. While some programs and individuals have developed informal relationships with some employers, there is no evidence of a systematic, statewide effort in this area.

There is an expressed need among staff to have contact with other educational agencies or organizations that could assist in the development of programs, training of staff and reintegration of inmates into society. Employer groups as well expressed interest and willingness to work together with corrections officials in enhancing their vocational programming. To that end, establishing linkages or networks with various educational and community resources agencies should assist in programming and rehabilitation efforts.

It is recommended that MDOC aggressively foster the development of partnerships among vocational programs with educational agencies and prospective employers. Evidence from programs in other states suggests the need to develop relationships with various educational and community resource agencies that can assist in areas of programming, training and inmate reintegration support. This finding is supported by MDOC's central office. In other states, external agencies are often involved in certification of vocational programs and staff. Thus, the establishment of an advisory committee would enable the MDOC to follow suit.

Facility Leadership and Policies Affecting Educational Programs

For the most part, the findings reflect a clear sense among facility administrators and teachers of the overall misson and goals of their vocational programs. In general, there is agreement among facility leaders regarding a vision for vocational education. Facility personnel believe that vocational education is important to the work of their facilities. Operationalizing these beliefs in the form of specific policies, procedures, and funding, however, varied considerably. It is also not apparent that processes are in place for systematically determining the overall effectiveness of facility programs or how well the students understand the process in which they are involved.

It is recommended that the Department encourage each program to develop orientation materials, which can provide to both staff and students a common understanding of program policies, goals, and procedures. Orientation booklets are needed for new students and visitors to learn about what programs are offered in the facility, and the basic skills required for each program. Furthermore, MDOC should develop processes of continuous program improvement, which can be implemented within each program at each facility, and at the state level as well.

Training, Experience, and Professional Development of Education Staff

Credentials of the teachers varied, from on-the-job experience to certification and licensure by the state or accrediting professional association. A large percentage of vocational education staff has been with the Department for many years. Over the next five to 10 years, MDOC will, in all likelihood, be facing substantial vacancies among principals and teachers. In addition, considerable variation exists in teachers' access to and opportunities for professional development.

It is recommended that MDOC develop specific policy guiding the hiring of new personnel that requires certification or formal endorsement by an outside agency. Policies should also be established that increase teachers' access to and participation in professional development. These opportunities should focus on providing them with training in technology, strategies for teaching adult learners, and updating them in their respective vocational areas.

Intake and Assessment Procedures

Current intake and assessment procedures are providing principals and teachers with basic information on their potential students. It was not evident, however, that these processes provided specific information on an inmate's career or vocational interests, presence of learning disabilities or learning styles. In addition, the use of individual education plans, which should guide and follow the progress of any given student within the vocational system, was infrequent or nonexistent.

It is recommended that strategies be developed to identify learning disabilities among individuals being placed within the system, and the instructional accommodations necessary to address these disabilities. The use of individual education plans for each inmate should be encouraged in order to identify their needs and interests when placing them within appropriate vocational programs.

Program Curricula

The Department has recently taken steps to increase the articulation of vocational program curricula across facilities. Statewide curriculum committees in several areas have been meeting to determine competencies to be included within particular programs. This work has resulted in the production of progress plotters, which provide a means of documenting student progress within a program.

Yet, this study suggests that much work remains to be done in order to achieve more consistent, articulated, and coherent vocational education curricula across facilities. Curriculum committees in all program areas need to be engaged in a process of continuous program improvement, meeting on a regular, continuous, and on-ongoing basis. This effort should insure that program instructors are teaching skills and knowledge relevant to the latest technological trends within their respective areas. These skills and knowledge should be specified in performance-based or competency-based terms.

Education staff within the central office and curriculum committees should align program curricula with labor market trends and the curricular framework provided by the Michigan Career Prep system. This would insure greater continuity among educational providers and the needs of Michigan's workforce. To contribute to the overall effectiveness and quality of its programs, the Department should pursue formal certification of vocational curricula with appropriate educational agencies.

While adult basic education and GED preparation were not a primary consideration of this study, the investigators recommend that academic and vocational curricula be more fully integrated. This would involve teaching or reinforcing basic skills within vocational areas, and making basic skills and GED preparation more contextualized within the world of work.

Finally, the overall content and quality of pre-release programs varies considerably across facilities. The Department needs to encourage a more consistent and coherent curricular practice in this area. The Department should give serious consideration to integrating the concept of cognitive restructuring throughout its curricular and instructional processes.

Instructional Delivery System

The teachers who staff the vocational programs for the Department are, for the most part, very experienced in both their occupational area and in teaching. They are knowledgeable practitioners and seasoned teachers. Much of the instructional process used in these programs is individualized and students usually proceed at their own pace. Instruction usually consists of a mixture of didactic and hands-on experiences.

With the exception of a couple of areas, most program teachers make relatively little or no use of current, state-of-the-art technology within their teaching. In some cases, what teachers are using is hopelessly out-of-date and sometimes not even functional. There is a serious need to update instructional technology in all program areas, particularly where up-to-date technology is critical to marketable skills, such as in business technology education.

The Department needs to work toward greater consistency of instructional materials and resources available to all program teachers. Common materials to be used in each of the respective program areas should be specified by the curriculum committees and the Department should insure that all programs are able to obtain and use these materials.

Most of the instruction provided within the observed programs consists of some hands-on experiences for students. Curriculum committees should specify minimal standards for these experiences and insure that students in all programs have adequate access to hands-on learning experiences. To increase the potential that their students will develop marketable skills, teachers within these programs should strive to ground their instruction more fully within current work-based contexts appropriate to their occupational areas.

Finally, the Department should give serious consideration to the use of distance education formats, when appropriate, within both academic and vocational programs, and for the delivery of professional development for educational staff. A number of national examples exist that are successfully implementing distance learning in one or more of these areas and can serve as useful models for the Department.

Assessment and Follow-up

Assessment and documentation of student progress and follow-up of student success once they leave the prison system are critical to insuring effectiveness of vocational programs. There is currently considerable variation in standards and procedures used for assessing progress within the vocational programs observed. In addition, completion rates in many programs can only be considered, at best, modest in nature. These disappointing levels of completion are due to multiple factors but current Department policy on transferring inmates is clearly contributing to this problem.

For the most part, programs in all the vocational areas need to be developing and using better, more standardized and uniform systems for assessing, documenting, and certifying student progress. To help alleviate the problem of transfer, curricula within program areas needs to be more standardized. Processes of communicating information across facilities about student progress need to be improved. Departmental polices need to be reviewed and revised to decrease the effect of transfer of inmates on their ability to complete vocational training. Consideration also needs to be given to increasing the number of allowable programs for each inmate to at least two, with particular emphasis on those nearing their release dates.

Finally, the Department needs to give serious consideration to developing and implementing methods to follow former inmates' success once they are released into the community. Data should be obtained on their success in obtaining gainful employment, retention in any given job, and their efforts at continuing education.

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CHAPTER ONE

INTRODUCTION

The Michigan Department of Corrections is responsible for over 40,000 individuals housed within 40 prison facilities across the state. Among the responsibilities with which the Department is charged is to provide educational programs for those incarcerated individuals who qualify and are willing to participate. About 10,600 persons, the vast majority of whom are men, are enrolled at any given time within these educational programs. According to the 1995 Education Action Plan of the Michigan Department of Corrections (MDOC), the mission of the Department's education programs is to offer incarcerated individuals an opportunity to gain academic, social, and work skills to become productive citizens while in prison and when released to the community. Specifically, these programs aim toward increasing: a) reading, math, writing, and critical thinking skills at least to the level of the General Educational Development (GED) certificate level; b) employment and job skills; and c) interpersonal skills.

While the academic focus of MDOC's education programs is critical to the overall success of their educational effort, it is not the primary focus of this report. Rather, the project reported on here concentrated on vocational programming within MDOC institutions. In our interpretation of findings and recommendations, the researchers speak to the *relationship* of academic and vocational programming within MDOC. The principal concern, however, is with the overall nature and quality of educational programs directed toward the development of specific occupational skills.

Approximately 1,800 incarcerated individuals are enrolled, at any given time, in vocational programs. These programs are spread out across a variety of MDOC facilities and reflect 12 different occupational areas. The vast majority of these programs are located in prisons with a security level ranking of four or less.

Prior to the mid-1980s, the Michigan prison population remained relatively stable, at about 17,000 individuals, for several years. Since the mid-1980's, however, this population has more than doubled and now exceeds 40,000 persons. This rapid growth has placed considerable strain on MDOC to effectively meet the educational needs of this escalating population. Due in part to this rapidly growing prison population, consistency, continuity, and articulation of programming in the vocational area has declined. Thus, with this project the MDOC sought to "take stock" of where they are with respect to vocational education, and to identify ways in which these programs may be enhanced.

Project Goals and Objectives

The purpose of this study was to determine how vocational education within the Department of Corrections may be improved to more effectively contribute to the goal of providing inmates with employable skills. The study was conducted over a nine-month period, from June 1998 - March 1999. Specifically, the objectives of this study were to:

1. Assess vocational education programs within the Department of Corrections in terms of their overall purposes, intent, similarities, differences, and relevance to labor market trends and employability;
2. Assess the level of coordination and articulation across the state among existing and potentially new vocational education programs;
3. Determine the potential for aligning and integrating vocational programs with life skills and academic programs;
4. Develop a conceptual framework for use in assessing inmate success within the institutions' vocational programs.

The overall aim was not to *evaluate* the nature of vocational programming within the state but to provide specific information that may be useful to MDOC in considering and making decisions about changes in their statewide vocational program.

Organization of the Report

In addition to this introductory section, this report is organized around five additional sections. The next section presents what we are calling *Toward An Emerging Set of Best Practices* for vocational education in corrections. This information is derived from an extensive review of the literature, published descriptions of programs in other states, visits to exemplary programs, and the research and theory evolving in Michigan in the area of career preparation. We believe there is no consensus reflected in the field on specific characteristics that unequivocally constitute Best Practices for corrections vocational education. There is, however, sufficient information to develop a *working* definition of Best Practices. It is in that spirit that this set of characteristics and variables should be interpreted.

The third section of the report provides information on the overall design, methods, and procedures used to gather data related to the objectives of this report. Unlike previous studies, this project utilized primarily a qualitative research design to address its objectives. The data collection methods and procedures were responsive to the particular contexts and situations presented within each facility, while still being guided by an overall data collection framework. The majority of our data on specific vocational programs were generated through site visits. We also interviewed MDOC Central and

Regional Office administrators, visited an out-of-state program, held phone interviews with other out-of-state personnel, and examined numerous statewide documents related to vocational programs.

The fourth section provides a detailed summary of findings. This information is presented in three broad categories: a) program-level issues; b) interfacility-level issues; and c) statewide-level issues. The findings presented here are not intended to provide information on individual programs at specific facilities. Rather, the findings are presented specific to a program area, represented by the programs visited and their relationship to interfacility and statewide issues.

In the fifth section, we provide an analysis and interpretation of findings, based on the framework of Best Practices presented in Section Two of the report, the Michigan Career Preparation System, labor market trends, and the MDOC Education Action Plan of 1995. We provide these interpretations in the form of strengths and recommendations for improvement.

The final section of the report, Recommendations, summarizes the findings and provides our judgment of priority areas to be examined within the strengths and recommendations for improvement identified in Section Five. This section is followed by the Bibliography and Appendices which provides additional information on documents, tools, and procedures used in the project.

CHAPTER TWO

TOWARD AN EMERGING SET OF BEST PRACTICES

The purpose of this section is to provide an overview of the rationale for providing education and training within correctional facilities, and the specific qualities and characteristics of these programs that contribute to their overall effectiveness. This discussion is grounded in a review of related published literature of research studies and descriptions of programs and model sites in other states. From this discussion, we propose a framework of emerging "Best Practices" for vocational education within prisons. This framework will then be used to interpret the findings derived from our study of vocational education programs in the Michigan Department of Corrections.

Why is the Correctional System in the Business of Education?

At the present time, MDOC houses over 40,000 individuals within its 40 prisons and 14 camps. The MDOC budget being considered for the year 2000 is approximately $1.57 billion. Since 1982, the cost to Michigan taxpayers of incarcerating individuals has risen from 5% of the state budget in 1982 to 17% today. Contributing to this increase has been the tendency for the State to incarcerate for longer periods of time and mandatory prison sentences for serious drug offenses. These figures reflect national trends, which reveal a tripling of the national prison population over the last 15 years.

Making up a small part of this total cost to society is the presence of educational programming in the prisons. Education has been a part of the U.S. correctional system since at least the 1800s, when it focused primarily on religious instruction. In the 1930s, however, it became more closely aligned with a rehabilitative function and began to focus on academic and vocational preparation. In the 1960s, many prisons began to offer postsecondary education (Gerber & Fritsch, 1995). Recently, however, there have been sharp funding reductions in many states for prison education, with college-level and vocational programs being hardest hit with these cutbacks. These cuts reflect, in part, a response to growing public skepticism regarding the role of education in achieving its rehabilitative function.

Within the U.S. most prisons continue to provide some form of education or training to inmates. Of the individuals participating in these programs, most are enrolled in adult basic education (ABE) or GED preparation programs. About 60% provide some form of postsecondary education and 79% offer life and social skills training (Kirshstein and Best, 1996). Prison education programs serve multiple functions, including reducing prisoner idleness, contributing to prison population control strategies, and helping provide trained individuals to staff the work that needs to be done in prisons.

Most educators who work in prisons and most officials responsible for supervising these programs, however, stress the rehabilitative function of educational programming. That is, education is provided to incarcerated individuals with the expectation that it will contribute to the person's ability to stay out of prison once he or she is released. This goal is achieved by helping them acquire the necessary life and employability skills they will need to obtain decent employment or to continue their education.

When one surveys the educational achievement levels and abilities of those housed within correctional facilities, the need for such intervention becomes painfully clear. National estimates suggest that about two out of every three inmates do not demonstrate functional literacy skills, as defined by the 1992 National Adult Literacy Survey (Kirsch, Jungeblut, Jenkins, and Kolstad, 1993). As many as 72% of inmates in some U.S. facilities are high school dropouts. There is considerable suspicion, suggested by a number of studies, that many of these incarcerated individuals with low levels of educational achievement and literacy experience some form of learning disability that has gone largely unrecognized throughout their lives (Barton & Coley, 1996). Returning individuals with these levels of basic skills to the community is a recipe for recidivism; and many states, such as Michigan, have developed aggressive policies to at least provide individuals leaving prison with a GED certificate.

While prison educators and others stress the importance of prison education to the overall rehabilitative process, the actual relationship of educational participation to desirable outcomes is complicated and not entirely straightforward. In fact, research within the early 1970s (Martinson, 1974) drew rather pessimistic conclusions about the effects of educational programming on recidivism.

Subsequent research, however, has focused on those relatively rare programs which seem to make a difference. Over the last 10-15 years, researchers have examined the benefits accrued from providing academic, vocational, and college-level education programs to incarcerated individuals. In general, this research has focused on the effects these programs have on (a) post-release recidivism, (b) post-release employment, (c) disciplinary problems within the prison, and (d) post-release participation in education.

Taken as a whole, the research shows a fair level of support for the capacity of academic and vocational programs to contribute to fewer behavioral problems in prison, reduced recidivism, increased employment opportunities, and increased participation in education after release (Gerber & Fritsch, 1995). From this research, we can identify key program characteristics that contribute to their overall success (Antonowicz & Ross, 1994). These characteristics include: (a) presence of a sound conceptual framework, (b) multi-faceted programming, (c) the targeting of "criminogenic needs," (d) use of role playing and modeling techniques, and (e) presence of some form of social cognitive skills training.

Given the relatively low levels of academic and vocational preparation that characterize much of the incarcerated population (particularly the male population), there is considerable need for multiple levels and kinds of education and training within prisons. Providing individuals with basic skills, through ABE and GED preparation programs, can contribute to the reduction of recidivism (Anderson, 1995). There is also a strong need, however, to foster employability skills that reflect labor market needs and trends. Equipped with such marketable skills, incarcerated individuals released into the community are more likely to obtain employment that will eventually provide them with at least a living wage and, hopefully, keep them out of the "revolving prison doors" that characterize the lives of so many inmates.

In many states, vocational courses augment basic skills and GED preparation programs. Not all correctional education programs, however, are created equal. Having a vocational education program within a correctional facility itself does not necessarily mean that it will contribute in a significant way to the rehabilitation of the individuals who participate in the program. From the research over the last 10-15 years, we have learned that certain characteristics, structures, and processes contribute to the overall effectiveness of these programs. We now turn to a more specific consideration of what factors, processes, and structures seem to be important in these kinds of programs. We will take a closer look at what makes prison *vocational* education programs effective. Our goal here is to identify a framework of "best practices" that might be used to interpret the present state of practice within Michigan correctional vocational education.

Dimensions of Program Quality in Corrections Vocational Education

We begin this consideration by first examining general factors or dimensions that allow us to develop a deeper understanding of how specific characteristics within a program play a role in its overall quality and effectiveness.

In the publication, *Is It Working: Self-help Guide for Evaluating Vocational and Adult Education Programs*, the Office of Correctional Education within the U.S. Department of Education (Fleischman, 1995) provides a point of departure. In this document, four broad components are identified as a means of providing a conceptual framework for thinking about program quality. These are (a) program environment, (b) program participants, (c) program implementation, and (d) program outcomes. To some extent, these components are rather self-evident to anyone who has worked in program improvement. Yet, they help us highlight certain features within corrections vocational education that are important to overall quality and effectiveness (Coffey, 1986).

Program Environment

The environment component stresses organizational context for the program, and the relationship of the program to the broader community in which it is located. A focus on the context reflects how specific organizational structures, processes, policies, and procedures influence and support vocational programs. Priority of, and funds allocated for, vocational education, internal mechanisms of communication among vocational staff and between the prison administration and vocational educators, interpretation of security needs, and relationship of educational staff with custodial staff are characteristics important to vocational programs within the organizational context.

The program environment also focuses on the external environment in which the program is located. Among the specific characteristics illuminated through this focus are the economy, job opportunities, and opportunities for continuing education and job training. In other words, this component suggests alignment of what is being offered in the prison education program with labor market needs and trends. Furthermore, attention should be paid to not only the presence of jobs but placement, retention and advancement as well. Vocational programs should strive to provide incarcerated individuals with occupational skills that help them seek gainful employment within their community and enable them to continue their education and training.

This component suggests the need for correctional vocational educators to develop and sustain relationships with key agencies and employers within the community who can provide input and advice on labor market needs. While often informal, these relationships can benefit from formal structures and processes, such as advisory groups and committees, instructor job shadowing, etc. Vocational educators need to nurture close and ongoing partnerships with these key constituent groups.

Program Participants

The nature of the participants or students represents another important program component. Intake procedures should collect specific information pertinent and relevant to the needs of the individual. This information should include data on literacy levels, educational achievement, previous vocational training, work history, and vocational interests and goals. In addition, there is a growing need to identify learning styles and the possibility of learning disabilities early in the intake process so appropriate accommodations may be developed to help them succeed in their program (Ohio State Legislative OEO, 1994).

Program Implementation

This component directs our attention to program activities such as intake and assessment, curriculum planning, instruction, counseling, and other needed support services. This component includes program goals and objectives, duration of the training program, number of hours per day and days per week the program is offered, number of students and instructors, prerequisites for enrolling, specific competencies addressed in the program, methods and materials, level and degree of job counseling available, and extent of job placement activities.

For example, the intake and assessment procedures should reflect processes that help obtain and provide the kinds of participant information described above. This information should be used systematically to influence vocational placement within prison education programs (Texas State Council on Vocational Education, 1992). Some programs have adopted the use of Individualized Education Plans (Retish, 1987) to guide this process. Curriculum planning processes should incorporate information derived from labor market analysis and trends, as well as the current research within the particular program area.

Instructional processes should reflect knowledge of and skill in working with adult learners (Fox, 1991), and should attempt to accommodate specific learning styles and disabilities that individuals may bring to these programs. Instruction should make appropriate use of technologically-mediated approaches, whenever possible, to help acquaint and familiarize inmates with how technology is used within the workplace. Effective programs are characterized by up-to-date curriculum stressing state-of-the-art competencies, text and equipment, sufficient resources and equipment to address the learning needs of the inmates. Counseling and support services should be aligned with the overall vocational goals of the individual.

Program Outcomes

Finally, the dimension of program outcomes focus on effects the program has on its participants and the extent to which it is contributing to its overall purpose and goals. Included in this component are such specific characteristics as program completion rates, documentation of progress on specific skills and objectives, satisfaction with instruction provided; and once the inmate is released, job placement, retention, advancement, and participation in continuing education and training. Data can include number of hours worked, wage per hour, promotions, wage increases, and employer and employee satisfaction with performance and the job.

Effective vocational education programs in prisons have mechanisms in place which monitor these factors and provide information on them back to program staff (Rominger, 1993; Texas State Council on Vocational Education, 1992). A key factor here is the presence of follow-up procedures once the inmate is released into the community. Effective programs develop various structures, means, and relationships to accomplish this task, but they take seriously the need for this information in the overall quality of the program.

Interfacility and Statewide Factors Contributing to Quality in Corrections Vocational Education

In addition to attributes and factors that characterize individual programs, the overall quality and success of a state's prison vocational program is significantly influenced by policies, structures, and processes beyond individual programs within individual institutions. Interfacility processes and factors and statewide policies and procedures that influence operation in and among these programs affect the overall quality and effectiveness of a state's correctional vocational education programs.

Interfacility Factors

Movement of inmates from prison to prison in Michigan is common and occurs for a variety of reasons. In an earlier study of Michigan prison education, Conrath (1996) identified a number of problems resulting from inmate transfer and pointed to the lack of available courses to match those that individuals were taking in the facility from which they were being transferred.

The reality of this movement requires that MDOC's vocational programs reflect consistency across facilities and articulate with each other, in order to provide ongoing and uninterrupted education and training for the individuals being transferred. Curricula within specific occupational areas should be similar across facilities. Names of individual programs should be similar or even identical and the curricula should be competency-based (Nelson, 1988). Systems and processes need to be in place for educational staff within the involved programs and facilities to communicate and transfer this information in a timely, reliable, and accurate fashion.

There are several ways in which interfacility processes are used in other states to help improve consistency and continuity of programs. Perhaps the most common, however, is communication in and among educators that make up particular programs. Periodic meetings of these individuals, sharing of curricular documents, and e-mail listservs are various ways in which programs can insure consistency and continuity statewide. Establishing partnerships or working collaborative relationships with local educational agencies and employer groups is another way to foster quality and state-of-the-art curricula among these programs.

Statewide Factors

Barton and Coley (1996) point out that expenditures on prison education and training have been steadily falling while resources devoted to prisons are increasing. In the 1990s, substantial reductions occurred in vocational and technical programs in many prisons across the country. This finding occurs against a backdrop of mounting evidence of the positive effect of education and training within prisons.

Persons responsible for the statewide picture of education within state departments of education are in key positions to advocate for the role of education in the rehabilitative function of prisons and to foster overall quality and effectiveness of vocational education programs. They are responsible for implementing policies and procedures that literally affect the day-to-day operations of individual programs throughout the state. Consistency and continuity of departmental leadership regarding corrections education is critical to its overall success.

Statewide policies govern a number of issues which affect quality at the local level. Among these are allocation and dissemination of funding; transfer of inmates who are enrolled in vocational programs; how many vocational programs an individual can take and when; prerequisites for enrolling in vocational programs, such as completion of the GED; coordination with the parole system after release; and staff development.

Decisions regarding delivery systems are also often the responsibility of departmental staff. Creation of vocational theme prisons (Ohio Dept of Rehabilitation and Corrections, 1998), use of on-line and distance education (Woolley, 1997), and regional education centers (Texas State Council on Vocational Education, 1992) are examples of how statewide leadership can be used to foster new and innovative systems of delivery for both inmate education and staff development.

The Department is also in the best position to monitor the overall picture of vocational programs statewide. It is likely that inmate interests and abilities as well as the labor market will require a multiplicity of programs within any given state. A number of states offer an impressive array of vocational programs (Ohio, Florida, Georgia, etc.).

These are all critical aspects of vocational programs and will work only with buy-in and ownership at the local level. Statewide systems which address these issues need to include representatives of those most affected, including teachers and administrative staff from the local facilities.

Long term constraints on the improvement and reform of vocational education within prisons are still present in many states. The sources of these constraints are multiple and varied. Some of these constraints, however, can be addressed by review of and changes in statewide policies and procedures so that they effectively support the overall goals and purposes of the educational programs within the correctional system.

Alignment with State Career Prep Systems

Michigan and several other states are creating and implementing statewide systems to facilitate the design, delivery, and assessment of educational programs that more effectively address the workforce needs of a rapidly changing labor market. Employers expect employees to have academic skills in mathematics, communications, and science, as well as a good work ethic, teamwork skills, critical thinking and a desire for life long learning. The purpose of Career Prep in Michigan is to systematically organize and integrate programs and services which address the needs of students and adults in the K-16 educational system. The system is intended to ensure that each graduate will receive world-class skills and training that prepares them for higher education and their first job in today's competitive market.

The goals of the Michigan Career Prep System are to expand choices available to students, to increase the involvement of the private sector and other community organizations, and to establish standards and accountability statewide to ensure consistent high quality. Key areas of the system include: (1) *academic preparation* - providing the core academic content areas including language arts, mathematics, science, and social studies as outlined in the 1996 Michigan Curriculum Framework document; (2) *career development* - providing a continuum of planned activities including career awareness, exploration, decision-making, and educational planning, and utilizing the career pathways as a way to cover all career opportunities, i.e., Arts and Communications, Business, Engineering/Manufacturing, Health, Human Services, and Ag and Natural Resources; (3) *workplace readiness* - providing the skills needed for general workplace knowledge, and behaviors that will help learners move successfully in the world of work; (4) *professional and technical education* - providing options available for learners to attain the necessary specific preparation to become employable, such as advanced specialized programs at colleges, universities, the military, and technical/trade schools; (5) *work-based learning* - providing school-based preparation and supervised worksite experiences designed with business/industry to enable learners to gain skills in real work settings; (6) *accountability* - providing a clear understanding of what needs to be accomplished, and a process to act on the results if improvement is needed; and(7) *school improvement* - providing data that will identify areas of strengths and weaknesses to be incorporated into the development of a school improvement plan.

A Framework of Best Practices for Correctional Vocational Education

The specific characteristics and attributes of individual programs, as well as interfacility factors and statewide policies and procedures all contribute to the overall quality of a state's prison vocational education system. In addition, articulation with statewide career prep systems, such as the Michigan Career Prep System, enhances communication among both educators and potential employers around what particular programs represent and how they might contribute to the state's overall workforce needs.

From the emerging practices stated above, the researchers propose the following framework of best practices be used as a guide to interpret the findings derived from the assessment of vocational education programs in the Michigan Department of Corrections:

Statewide leadership, policy, and direction

- Insures adequate and equitable funding policies through state leadership
- Designates individuals responsible for coordinating vocational programming in the state
- Clearly delineates roles of Central Office education staff and makes these roles known to local program staff.
- Maintains effective lines of communication between state office and local programs
- Uses State Education Plan to guide policy and curricular decisions at the state and local levels
- Seeks to articulate statewide programs with the state's Career Prep system components to more effectively meet the demands of a changing labor market

Interfacility cooperation and communication

- Demonstrates structures and processes for education staff from different facilities to communicate with each other and share information
- Provides information on transferring students related to needs, interests, and progress within the respective programs

Partnerships with local education agencies and employers

- Establishes and actively uses formal relationships with local educational agencies for planning and implementing vocational programs
- Establishes and actively uses formal relationships with local area employers for planning and implementing vocational programs
- Uses employer groups to design school-based experiences to enable students to gain skills needed in real workplace settings

Facility leadership and policies affecting educational programs

- Demonstrates clear mission and vision for educational programs
- Demonstrates agreement among wardens, principals, and classification directors with policies and procedures affecting educational programs
- Uses data for identifying areas of strengths and weaknesses to incorporate in school improvement plans

Training, experience, and professional development of education staff

- Provides opportunities for professional development on a regular on-going basis
- Provides incentives for staff to avail themselves of training
- Provides options for updating staff on educational policies and practices initiated by Michigan Department of Education

Intake and assessment procedures

- Identifies needs and interests of individuals related to educational programming
- Places inmates within appropriate vocational programs, based on identified needs and interests

Program Curricula

- Designs and utilizes competency-based curricula
- Reflects within the curriculum the needs of individuals and labor market trends of the community and state
- Insures consistency across facilities within any given curricular or program area
- Involves community agencies and employer groups in the design of curricula
- Uses statewide systems, such as curriculum committees, to review and update program curricula

- Articulates with and makes use of state Career Pathways, as part of the Career Prep System, in overall curricula design

Instructional delivery system

- Employs principles of adult learning in the design and implementation of instruction
- Uses state-of-the-art technology and other equipment
- Provides for materials and resources necessary and appropriate for effective instruction and training
- Provides for experiential, hands-on training appropriate to the vocational area
- Provides for job-counseling

Assessment and follow-up

- Monitors and documents student progress and program completion effectively
- Documents number of program completers
- Obtains follow-up information on employment placement after release

CHAPTER THREE

METHODS AND PROCEDURES

The overall purpose of this study was to provide MDOC with specific information to help improve the overall nature and quality of their vocational education programming. This study focused on specific aspects of the processes and structures of vocational programs, rather than measuring their particular outcomes. Our focus was on developing a *statewide* perspective of vocational education in MDOC, rather than identifying specific issues or concerns with programs at specific facilities. Specifically, we were guided by the following set of objectives:

1) Assess vocational education programs within the Department of Corrections in terms of their overall purposes, intent, similarities, differences, and relevance to labor market trends and employability;

2) Assess the level of coordination and articulation across the state among existing and potentially new vocational education programs;

3) Determine the potential for aligning and integrating vocational programs with life skills and academic programs;

4) Develop a conceptual framework for use in assessing inmate success within the institutions' vocational programs.

Research Design

The project utilized a qualitative research design. In general, this design involved the use of semi-structured interviews, observations, and document analysis. Through this approach, we sought to provide a rich description of the statewide context in which vocational education is practiced in MDOC, and the structures and processes reflected in the different vocational program areas across the state. We allowed issues and concerns to emerge through the analysis of this information.

Several sets of activities were used to address the project objectives. These activities are outlined below:

1) Comprehensive review of the literature related to vocational programming in corrections education;

2) Assessment of available curricular outlines within each of the vocational areas offered in the Michigan Adult Correctional system;
3) Participation in statewide school principal meetings, and curriculum committee meetings, when possible;

4) Participation in an orientation offered for the INVEST computer software;

5) Site visits and in-depth interviews with administrative staff, instructors and students at 15 different facilities offering vocational education programs;

6) In-depth interviews with central office and regional administrators within the Department of Corrections responsible for educational programs within the facilities;

7) Informal telephone survey of a selected group of employers to determine willingness to employ ex-offenders, and workplace readiness skills needed;

8) Site visit to Fox Lake and Oshkosh Correctional Facilities in Wisconsin;

9) Telephone interview and visit to Orlando Department of Corrections state office.

10) Discussion with central office personnel in the California Department of Corrections.

A central feature of our study design was the program site visit. Because of limited resources, it was necessary to select representative vocational programs for site visits, rather than include all programs available in Michigan. The researchers attempted to include all types of vocational programs available through MDOC. We solicited ideas on the specific programs and sites to be visited from MDOC central office staff and principals who were actively involved in statewide curriculum processes for MDOC.

In general, we were able to obtain information on each program from two or more facilities. These visits represented all but two of the vocational programs available for adults and security levels ranging from four (higher) to one (lower) because these two programs were offered at only one institute. Geographically, they represented the Upper Peninsula, and Western, Central, Southwestern, and Southeastern Michigan. The final list of types of programs and facilities visited is provided in Appendix A.

Data Collection Procedures

Several procedures were used to collect data relevant to the project's objectives, including in-depth interviews, classroom observations, and examination of curricular materials and resources. These procedures were augmented with participation in statewide meetings for the curriculum committee, principals, and in statewide sessions to update personnel on the progress of implementing computer assisted instruction within educational programs in MDOC.

Interviews

In-depth interviews were conducted at each site visit with key administrative staff and teachers, including wardens (when available), deputy wardens, assistant deputy wardens, classification directors, school principals, and teachers. Informal interviews were also conducted with a limited number of students. The in-depth interviews were guided by protocols (Appendix B) and lasted between 45 minutes and two hours. Principals were in the best position within each facility to provide detailed information on all of their education programs, as well as information on how local and statewide contexts influence their programming activities and decisions. For this reason, interviews with school principals were usually longer than interviews with other program staff. Appendix C provides a breakdown of the kinds and numbers of persons interviewed during the site visits.

In-depth interviews were also conducted with administrative personnel within the central office of MDOC and with regional administrators. The individuals selected to be interviewed were identified, in part, through the site visits and statewide meetings. Input on the individuals selected to be interviewed was obtained from principals active in the statewide curriculum process.

With a few exceptions (where clearance was not granted for the use of tape recorders), all interviews were recorded and transcribed verbatim. Transcriptions were then used for the analysis.

Additionally, the Fox Lake and Oshkosh Wisconsin facilities were selected as model programs for a site visit because of the high level and quality of vocational programming available. This visit included a tour of the educational facilities, conducted by the education director at each facility, a brief conversation with the warden at Fox Lake, and a group interview with two central office personnel and an educational director. An in-depth interview with the distance learning director in the Florida corrections system was followed by an onsite visit to Orlando, Florida Department of Corrections. Discussions were also held with central office staff within the California Department of Corrections.

A telephone survey of employers was conducted to determine if they would employ ex-offenders who were vocationally trained while incarcerated. The employers surveyed included small businesses, building contractors, large businesses and corporations who employed skilled and semi-skilled workers in manufacturing, machine tool, building trades, health care, facilities maintenance, grounds maintenance, food service, printing, and retail sales.

Observations

When possible, our site visits were arranged to coincide with instructional sessions. If classes were in progress at the time of the visit, one or two researchers spent 15-20 minutes observing the instructional process. If class was not in progress, researchers visited the classroom or settings where instruction was usually provided. These observations were guided by a specific protocol, which is provided in Appendix D.

In addition to observations conducted at each site visited, the researchers attended several statewide meetings. These meetings provided information relevant to the project goals and objectives. Usually, at least two or more members of the research team were present at meetings and the role was generally that of participant observers. During these meetings, notes were taken and then a debriefing following to identify observations salient to the project objectives.

Curricular materials and document analysis.

During the site visits, the researchers examined any curricular or instructional materials available, as well as any additional resources and equipment used within the instructional program. Progress plotters were examined, if they were available and in use, and other materials, such as textbooks, videos, and other equipment used in the program. The protocol used to guide this aspect of data collection is provided in Appendix E.

Within this category, there were numerous documents and sets of materials, such as statewide progress plotters developed by the different curriculum groups, the MDOC 1995 Education Action Plan, and the organizational structure of MDOC, that were made available to us through the curriculum committee and the MDOC central office.

Telephone survey of employers

A telephone survey of employers was conducted to determine if they would employ ex-offenders who were vocationally trained while incarcerated. The employers surveyed included small businesses, building contractors, large employers and corporations who employ skilled and semi-skilled workers in manufacturing, machine tool, building trades, health care, facilities maintenance, grounds maintenance, food service, printing, and retail sales. The overall size of the business ranged from very small, employing two or three workers, to large corporations, educational institutions and health care providers with several thousand employees.

Twenty-five employers of skilled and semi-skilled workers in fields traditionally associated with vocational training were polled regarding (1) their policy toward the hiring of ex-offenders, (2) the existence of cultural barriers to the hiring of ex-offenders, (3) the level of technical skills required for entry-level placements, and (4) workplace readiness skills needed.

We recognize that this survey is limited in size, and that responses provided in a telephone interview may not necessarily reflect the actual actions of an employer in a specific hiring situation. But the information obtained through this survey provides some information as to the needs and attitudes of employer groups within certain labor market areas.

Analysis of the Data

All transcribed interviews, observations, notes, documents, and other materials were subjected to content analysis procedures. Interviews and notes were initially analyzed to inductively identify "key variables" characterizing important issues or factors within vocational programs. These variables were then used to construct an analytic framework, informed by the literature and review of program descriptions from other states. This framework was then employed in a more comprehensive analysis and review of the data (Appendix F).

CHAPTER FOUR

SUMMARY OF FINDINGS

This section aims at developing an overall picture of vocational education programs within Michigan adult correctional facilities and not any one institution or program. The findings are summarized in three broad categories: a) program-level findings, b) interfacility-level findings, and c) statewide-level findings. While it is recognized that some overlap exists among these three categories, this summary of findings reflects increasingly broader and more diverse domains of involvement and responsibility. In addition, recommendations to address any issues within these different levels will require different kinds of interventions.

In the first broad category, a summary of program-level findings is presented below in terms of descriptions of programs which focus on key variables that help to organize and frame the findings.

Program-level Findings

Program Title: Automotive Technology

Program Overview
The purpose of the Automotive Technology program is to provide students with the knowledge and experience they need to work within the automotive industry both inside and outside of the prison setting. Students who participate in the Automotive Technology program will understand and apply the following tasks as part of a standards for certification requirement for program completion:

- Overview of the Automotive Industry
- Safety Practices
- Certification in at least three of the following:
  Brake Systems
  Electrical Systems
  Engine Repair
  Engine Performance

- Additional Enhancement Areas determined by custody, site suitability, and instructor availability, such as: Transmission, Air Conditioning and Heating, Front-end Alignment

This program requires approximately 24 months to complete.

At the time of the study, the MDOC Automotive Technology programs were offered in Handlon, Kinross, Muskegon and Western Wayne.

The information below was gathered at site visits.

Context
The Automotive Technology program also included one autobody program which was recently phased out. One instructor reported that small engine repair was also a part of this program, but was being phased out by MDOC because of the high cost to maintain it. Security levels and practices play a large role in the type and amount of materials prisoners can access for this program. As a result, there is a range of instructional use of hands-on and practical application. Security issues were also cited as a reason the autobody program was phased out. The GED and TABE are used to determine students eligibility in the programs. In one program students must complete an auto mechanics core before advancing to autobody and welding. In another program, the prerequisite to hands-on work is the first five chapters of the textbook. About 12 to 15 students participate in each class. Instructors also reported the need for additional space. Programs range from 400 to 800 hours.

Program Outreach

Community relationships are important to this program. For example, area businesses, such as local junkyards, provided materials for some programs. Instructors sometimes work with local community organizations to obtain projects for students and, in turn, provide services to the community.

Curriculum

Curriculum plotters have been developed, but instructors are unsure as to whether the program is standard across the state. A new plotter is being developed. Instructors reported the current curriculum leans more toward automechanics than autobody. Some instructors report materials are outdated. Hands-on learning is a major component of the program, while restrictions on materials prevent some programs from offering the kinds of practical experience instructors want to provide for their students. Instructors would like for the academic programs to "loop" into the vocational programs in order to provide students with more relevant learning experiences while studying basic academic skills.

Professional Development/Quality of Instruction

Interviewees reported that instructors in the automotive programs do not have to be certified in the content areas, but need to have experience with what they are teaching. Instructors reported they kept up-to-date by working on cars outside of the prison setting.

Technology

The use of technology in the Automotive Technology program varies. One institution, for example, does not use computers; another uses some computers. None of the corrections automotive technology programs depend strongly on the use of computers. Other technology, however, allows students to simulate auto repair situations.

Evaluation/Assessment

In one institution the instructor mentioned that there were eight areas in which an auto technician can be certified, but training emphasis was placed on four of the eight which were considered the most important for employability. Lack of materials hinder program development, and in at least one case, students can receive certification in a skill without ever having practiced on a car. Transfers caused students not to get certification and instructors reported that delaying transfers until the student completed the program was requested but not considered. New materials circulated after the site visits indicate that certification is a requirement for completion of the automotive technology program.

Program Title: Building Trades

Program Overview

The purpose of the Building Trades program is to provide students with the knowledge and experience they need to work within the construction trades industry outside of the prison setting. Students who participate in the building trades program will understand and apply:

- Simple Drafting Skills
- Electrical Skills
- Plumbing Skills
- Woodworking Skills
- Standards for Building Codes

Within the Michigan Department of Corrections, Building Trades programs are offered at Carson City, Chippewa, Cotton, Handlon, Hiawatha, Ionia, Kinross, Mid-Michigan, Scott and Thumb.

The information below is based on data gathered from site visits:

Context

Instructors report a growing need for building trades workers in Michigan. The program also prepares students for maintenance positions in motels, apartments, etc. Security policies play a large role in the kinds of instructional activities provided to students in the building trades program. Transfers of inmates also affect the success of students in completing the programs as some instructors report little articulation of programs across the state. Some instructors report high amount of transfers while others in lower security level prisons, report little loss of students due to transfers. In this case, more students are lost to parole. Programs vary from 300 to 400 hours in length and are self-paced. There is a six-month waiting list in at least one of the prisons. Once students complete the written program, they move on to the shop classroom.

Program Outreach

Community relationships are important to the program as they provide a connection to outside employment and other opportunities for learning. One instructor works closely with a local lumberyard owner who provides materials for class projects and visits the class for classroom demonstrations. Another instructor works with a local park and recreation department to provide learning opportunities for students. At another location, students work on Habitat for Humanity projects. Instructors see connection to community as important not only for program development, but for job placement of ex-prisoners.

Curriculum

Progress plotters are used in the building trades programs. Some instructors report inconsistencies in programs across the state. One reports past efforts at a standardized curriculum have failed and more needs to be done. Some instructors report a core program would help to alleviate some of the completion problem caused by inmate transfers. Instructors report that curriculum for building trades is designed according to what fits with the instructor's capability, materials available and the facility policies. Students in building trades work from textbooks as well as engage in hands-on learning projects. Building materials and available tools are limited due to security restrictions, and instructors report the kind of materials and instruction available to students is not consistent across the state. Students also use videos and are assisted by program tutors.

Professional Development/Quality of Instruction

Instructors report they get no or little preparation time and they need to find their own professional development opportunities. Some would like to see opportunities for instructors across the state to train together. Some of the instructors are certified to teach building trades, others have work experience and/or a license in construction work.

Technology

Little or no computers are used in the building trades programs. Instructors would like to see the use of Invest, but the cost of the program, they said, is prohibitive.

Evaluation/Assessment

There were teacher-made written tests, and assessments were made on the projects completed, i.e., cupboards, benches, desks. Security policies and funding are directly related to the quality of materials, curriculum and instruction offered.

Program Title: Business Education Technology

Program Overview
The purpose of the Business Education Technology program is to provide students with the knowledge and experience they need to work within the business technology area both inside and outside of the prison setting. Students who participate in the Business Education Technology program will understand and apply:

- Basic Office Communication and Computation Skills
- Basic Customer Service Skills
- Word Processing Software Applications
- Database Software Applications

Within the Michigan Department of Corrections, Business Education Technology programs are offered in Carson City, Crane, Hiawatha, Ionia, Lakeland, Mid-Michigan, Muskegon, Riverside and Scott.

Information below is based on data gathered from site visits:

Context
Business Education Technology programs have a maximum of 15 students in a class. Different sites have different requirements for admittance. One site requires at least a six-month sentence and reading level on the TABE of 7 or 8. Another requires students have a GED, but reports students enter the program with very low academic skills. Instructors interviewed reported little or no standardization of program across the state and say students in one site may complete the program in six months while students in another site may complete in a year and a half. Transfers reportedly affect student success in some of the business programs. One instructor reported only one in 45 students likely will complete the program. In addition to transfers, the teacher cites employment as a reason students drop the program. Policies that allow students to get a job after six months of school may contribute to the dropout rate.

Program Outreach
None of the instructors interviewed reported significant interaction with the community in relation to program development. One instructor reported a need to be aware of community services which can help ex-prisoners adjust and find work.

Curriculum
Instructors reported the business education technology curriculum is outdated. Curriculum plotters exist but some instructors have added new activities to the plotters in an attempt to keep students up to date. Instructors reported the plotters are not used in the same way across the state, creating programs that differ in content and length. The business education technology curriculum is self-paced. Students use textbooks, videos and computer programs to build skills. In addition to curriculum materials, some teachers bring in magazines and books in an attempt to update the curriculum. Some

instructors were responsible for a pre-release course and spent considerable time searching for community resources.

Professional Development/Quality of Instruction

Instructors report little professional development activity. One interviewee said it has been three years since business education instructors came together to meet on curriculum. Others report the design of the programs were developed by individual instructors who visited other programs in corrections and gathered resources on their own. Instructors claimed they would benefit from meetings with other business education instructors. One instructor expressed interest in adding a work-based component to the program and would like to discuss possibilities with other instructors.

Technology

The Business Education Technology program uses computers, but the computers being used are reportedly outdated. One instructor reports having new computers in the classroom, but because of a lack of technical support and training, the computers have not been set up. The state's system for programming computers also restricts instructors' ability to update instructional tools.

The limited use of technology and the lack of ability to update technology also hinders the curriculum.

Evaluation/Assessment

Without a standardized business education technology program in the state, students who transfer from one site may not be able to transfer their skills into a similar program thus delaying completion of a program. In a self-paced curriculum, once students pass written tests they can move on to the next unit. Instructors report that as students go through the progress plotter and do all the lessons, each section is scored, dated and marked complete. Seventy percent is the minimum passing grade.

Program Title: Electronics

Program Overview

The purpose of the Electronics program is to provide students with the knowledge and experience they need to work within the electronics field. Students who participate in the Electronics program will understand and apply the following:

- Introduction to Electronics and Electricity
- DC Circuits
- AC Circuit Analysis
- Semi-Conductor Devices
- Digital Electronics Basic Circuits
- Technician License Preparation for General Radiotelephone Operators License and Associate Certified Electronic Technicians License
- Supplemental Programs - such as Introduction to Robotics, Microwave Oven Repair

Within the Michigan Department of Corrections, the Electronics program is offered in Adrian and Brooks.

Information below is based on data gathered from site visits.

Context

In at least one site, students must have their GED before enrolling in electronics. Students in the electronics classroom work at their own pace in individual stations. Electrical drawings, posters, newspaper articles and quotes were displayed in one of the sites visited. The classroom was quiet, neat, well organized and highly structured. Two tutors assist in the classroom.

Program Outreach

There was no mention of outreach to the community in the electronics program.

Curriculum

Electronics instructors reported using progress plotters. Instructors in the state's two electronics programs reported using different materials. One program uses a paced curriculum known as Ives. Students in this program also use supplementary materials. Hands-on training is achieved through the use of small simulation tools which allow students to practice electrical and wiring concepts.

Professional Development/Quality of Instruction

Electronics teachers reported attending curriculum meetings and appreciate the opportunity to network with each other. No other professional development activity was mentioned. One instructor interviewed received electronics training in the Air Force and taught adult education before teaching in prison.

Technology

Other than the instructor's computer, there was no mention of computers being used for learning in the electronics classroom.

Evaluation/Assessment

Teacher-made tests were used to determine a student's progress. There was no mention of a certificate or license at the time of the site visit.

Program Title: Food Service/Hospitality Management

Program Overview

In May, 1998 the curriculum committee offered a revised curriculum for Food Service/Hospitality Management. The primary objectives, according to the committee, are to have students gain self-worth, a sense of work ethic, respect, a sense of responsibility and a feeling of accomplishment when completing the program. The final goals is to have a productive and meaningful career in the food service industry. Students who participate in the Food Service/Hospitality Management program will understand and apply many of the following:

- Safety and Sanitation Duties
- Customer Service/Business Operations
- Kitchen Helper
- Salad Bar Duties
- Short Order Cook Duties
- Food Preparation - salads, soups, sauces, meats, pastries, etc.
- Dining Room Operations

Within the Michigan Department of Corrections, the Food service/Hospitality Management program is offered in Brooks, Carson City, Chippewa, Cotton, Crane, Harrison, Lakeland, Macomb, Muskegon, Ryan, Saginaw, Scott and Thumb. The program requires 6 to 12 months to complete.

The information below was gathered from site visits.

Context

Approximately one fourth of Michigan's correctional institutions offer the Food Service/ Hospitality Management program. Instructors reported that a number of students were on waiting lists. Most of the students complete the program, provided the student stays in the facility. Some programs operated below capacity because of the inability to mix inmates across security levels. Institutions that housed level four inmates in particular had fewer inmates enrolled in the Food Service Hospitality/Management program. Transfer of inmates to other institutions affected completion rates. However, instructors suggested that a higher degree of curriculum uniformity should alleviate the impact of transfers. Challenges include operating a kitchen within a corrections environment. Sharp instruments and various utensils must be checked-out for security reasons. The requirement of having two separate courses based upon security levels was perceived as demanding. Moreover, maintenance and repair of kitchen equipment is difficult. Limiting the menu to items that do not require expensive ingredients also limits the knowledge base of graduates.

Program Outreach

Instructors indicated they were able to interact with professionals in the food industry who had knowledge of standards and trends. Contact with other instructors and principals from various institutions contributed to more consistency across Food Service Hospitality/Management programs.

Curriculum

Instructors reported appreciation for the new standardized curriculum. Instructors also indicated consistency across institutions relative to the selection of textbooks in accordance with National Restaurant Association guidelines. Although progress plotters outlined a variety of skills, some instructors reported a need to focus on the basics. In particular, emphasis is placed upon sanitation, food preparation and safety issues. Instructors use textbooks, videos and personal demonstrations as methods appropriate for conveying knowledge.

Professional Development/Quality of Instruction

Instructors throughout the Food Service/Hospitality Management program have broad experiences within the food service industry. Many indicated that while they were not trained as educators, their students benefited from their instruction because of their experience. Instructors suggested that while their college experiences helped prepare them for teaching, stepping into the classroom was a new experience for them. Many instructors expressed that frequent interaction with other instructors and professionals in the food industry was beneficial.

Technology

Instructors indicated a need to acquire the types of machines used currently in the food service industry. They also spoke of the need to utilize computer technology by integrating the academics with their particular program. For instance, math is a necessary skill that enables chefs to expand or condense recipes, and to that end computer applications would be useful.

Evaluation and Assessment

Progress through the curriculum was accomplished through passing content specific exams with a score of eighty percent or higher. Upon passing a final consisting of 200 questions the student then prepares a full meal as acknowledgment of his accomplishment. Certificates of completion are awarded as students progress through various phases of the curriculum. Inmates also had an incentive of increased pay towards completion, given that certified inmates become qualified to hold food preparation positions within the facility. It was suggested that the MDOC consider adopting a restaurant certification that is currently available and would be valuable.

Program Title: Horticulture Technology

Program Overview

The purpose of the Horticulture Technology Program is to provide students with the knowledge and experience they need to work within the green industry, both inside and outside of the prison setting. Students who participate in the Horticulture program will understand and apply the following principles of Horticulture deemed essential by the Horticulture Core Curriculum Committee in the Department of Corrections:

- Fundamentals of Horticulture
- Fundaments of Plant Culture
- Plant Propagation
- Horticulture Tools and Equipment and Safety Regulations
- Job Skills
- Applied Related Training

Within the Michigan Department of Corrections, Horticulture programs are offered in Brooks, Egeler, Crane, Huron, Ionia, Lakeland, Macomb, Mid-Michigan, Muskegon, Parnall, Riverside, Saginaw, and Thumb.

The information below is based on data gathered from site visits.

Context

A typical class may start at 7:15 and go until 3 p.m. There are usually about 15 students taking the class and teaches or aids (students who have taken the class and qualify) act as tutors. Transfers were a problem. Some instructors reported that they do not know from one day to the next who is going to be in their class. Although the policy requires that students have a GED to qualify for a horticulture technology class, one instructor reported that whoever is available is admitted to the program. The classes usually start with bookwork in late September and go until March to complete plant culture.

Program Outreach

The horticulture programs in corrections usually do all the bedding plants for the institution. Programs may have as many as 30,000 plants in a facility. Students in horticulture technology have opportunities to exhibit their work both in prison and community settings. For example, in one program students work in a greenhouse and prepare hanging baskets for the institution's offices and community agencies. In another program, students harvest vegetables from their vegetable garden and give to community groups.

Curriculum

The desired range of programs in Horticulture Core consists of:
Plant Culture
Interiorscape

Fruit and Vegetable Production
Turf Maintenance
Landscape Maintenance and Principles of Landscaping
Pest Management
Business Management Practices
Resource Development
Greenhouse Crop Production
Floriculture

Both principals and instructors reported that the progress plotters were not being used by all of the horticulture instructors as expected. Instructors reported they often develop their own curriculum. Some reported they did not have access to current textbooks. Prisoner transfers in this program meant there was not a large waiting list. As a result of transferring, many students did not complete the program.

Professional Development/Quality of Instruction

Instruction includes lecture, use of video tape, CD ROM, and hands-on. Instructors commented that there was no consistency across the facilities and no opportunity for professional development. With the availability of all the progress plotters listed above, there was no mention of using them except to report student progress monthly to the administration. There was no indication of integrating this subject matter with other classes. Curriculum is developed at the local level and does not follow a formal model. A primary concern of some instructors is that students chose the program for the pay and not for the subject matter. Custody is also an issue with this program as students work over many acres.

Technology

Computers were accessible to students in some of the institutions, mostly for plant identification. Videos were available for use as self-paced materials. Some instructors said that only they were allowed to use the computers, as the administration said no to the students.

Evaluation/Assessment

There are teacher-made tests and some teachers will not permit a student to go on to the next level until the student has passed the previous level by at least 80 per cent. A certificate is given at the completion of the program. Some instructors give the Michigan Certified Nurserymen exam which involves someone from that organization coming in to test. The certification does last three years, but a very low percentage of the students pass.

Program Title: Optical

Program Overview

The purpose of the Optical Program at Jackson MTI (Level 4) is to teach students how to fabricate prescription eyeglasses which are produced for any state entity or non-profit organization that requests prescription eyewear. The program is part of the Michigan State Industries and part of the vocational education program which originally began at Egeler in 1977 (a Level 2 security prison). The scope of the program includes training for the following:

- Optical Laboratory Trainee
- Optical Laboratory Semi-Skilled Technician
- Optical Laboratory Skilled Technician
- Optical Laboratory Skilled Optician

A student may qualify for a position as:
--a dispensing optician, or
--a laboratory optician

The program takes one year, but between the educational time and the actual time for working and getting experience, the average stay in the Optical program is about three years.

Context

Students are placed in the optical program through classification. The prerequisites include the GED and not having completed any other vocational program. A pre-test (TABE or CAT) examining math skill and reading comprehension ability is given. Students are put on a waiting list and as openings occur, they hire the students into the program. The waiting list can range from as high as 50 to as low as two. The word "hire" is used because the skills that are taught are utilized by actually producing eyeglasses for MDOC. There are approximately 15 to 20 students in the optical program at Jackson. Transfers can be a problem but did not seem to be significant. The setting included a variety of work stations that a student goes through in order to produce a set of lens. Students learn to make decisions about the best way to do things that involve making lenses. There are other eyeglass programs in MDOC, where prescriptions are determined on pairs of donated eyeglasses, neutralized, and prepared to take to foreign countries. This is a different program from the vocational optical program in Jackson.

Program Outreach

While placement and/or follow-up is not available, the instructor often hears from employers about a student and the success of the program. With additional space the program could be expanded to instruct more students and add new equipment. The optical industry in the U.S. has somewhere between 5,000 and 6,000 job openings every year. All of the training programs in the U.S. (including college, military, h.s.) turn out less than 2,000 trained opticians a year. According to the instructor, this is a program where jobs are plentiful if the right training is provided.

Curriculum

The actual curriculum was developed and continues to be refined by the instructor. The use of a progress plotter fills a need in terms of student progress. Instruction also includes reviewing basic math skills and hands-on instruction with the machinery. The instructor reported that the math skills of the inmates are weak. They need to apply some algebra and trigonometry in the class, which means tenth grade reading and math skill level to make it in the course.

As students progress from trainee to skilled optician they will learn:
--how to operate all optical machinery
--tool verification
--surface room functions including layout for surface blocking
--to satisfactorily operate all edges, glass, plastic, and poly carbonate
--hand stone edging safety bevels
--assembly of plastics (rimless and wire)
--tinting
--air and chemical hardening
--to read and direct prescriptions for completion
--lensometer verification (manual and automatic)
--to read, interpret, calculate and direct prescriptions

Professional Development/Quality of Instruction

The instructor manages his own professional development through contacts with vendors and other sources. Some university connection exists; and occasionally a skill center offers an optical course, but not as advanced as the Jackson program. It was reported that teachers need support in any program that would help their students get a good education and make them job ready.

Technology

The use of technology in the lab is apparent as students move from station to station. Updating the equipment to keep current with new methods of fabricating a lens is important for workplace readiness and for the work-based component of the class.

Evaluation/Assessment

There was no mention of a certificate for this program, however the standards must be adhered to in order to continue the MSI component.

Program Title: Printing/Graphic Arts

Program Overview
The purpose of the Printing/Graphic Arts program is to provide students with the knowledge and experience they need to work within the printing industry, both inside and outside of the prison setting. Students who participate in the Printing/Graphics Arts program will understand and be able to apply:

- MIOSHA and OSHA Standards
- Computer Graphic Skills
- Photography and Darkroom Skills
- Printing and Press Operating Skills

Within the Michigan Department of Corrections, Printing and Graphic Arts programs are offered in Ionia, Scott, Crane and Egeler. Ionia and Egeler offer graphic arts/printing, and the programs at Scott and Crane offer graphic arts.

The information below is based on data gathered from site visits.

Context
The Ionia program is the largest of the printing programs and supports most of the forms printing for the Michigan Department of Corrections. This program is divided into five phases. Phase I is the classroom and computer work; Phase II is photography and darkroom work; Phase III is work with printing plates and chemical washing; Phase IV includes working with plates that have been prepared, including customer service, clerical work and preparation for printing; Phase V involves bindery skills. The program takes 960 hours to complete or about 20 weeks of six and a half hour days. One program is situated in a Level I facility. The equipment is between one and three years old. Prisoners must have their GED to enroll in the program. At another setting, prisoners must have at least a six-month sentence and a reading level of 7 to 8 on their TABE. Math skills are also important to these programs. In the men's facilities, space was a concern for some of the printing and graphic arts programs.

Program Outreach
Other than the work within the Michigan prisons, little program outreach was reported by the instructors interviewed. One instructor reported teaching at a community college and reported using that experience to inform the prison classroom. Another instructor indicated that there was no opportunity for outreach, while another indicated that there was a lot of interaction with outside employers. Most instructors are aware of employer needs in the printing/graphics arts area and discuss employment opportunities with the students. One program keeps updated directories of printers and graphic arts businesses, and assists students in writing to potential employers regarding employment opportunities available as they get ready for release.

Curriculum

Instructors reported that progress plotters are used. Hands-on learning and group work are major components of this program, as well as work with computer graphic programs and printing machines. Instructional materials include textbooks, safety books, videos and software which differed at each program visited. In one program instructors reported that some students will drop the program when they get to the actual printing part because they do not like to get dirty.

Professional Development/Quality of Instruction

Instructors are required to engage in 40 hours of professional development a year. Some instructors attend a tech prep conference and monthly curriculum meetings. One also teaches at the local community college and brings back experiences at the college to the students.

Technology

These programs are highly dependent on technology. Computers are used from the beginning as students learn graphic design skills with computer software. Other technology includes plate, printing and bindery machines, as well as photography and darkroom equipment. One classroom had several computer terminals available but only two students were enrolled in the class at that time.

Evaluation/Assessment

There was no opportunity to review a progress plotter or assessment.

Program Title: Welding Technology

Program Overview

The purpose of the Welding Technology program is to provide students with the knowledge and experience they need to work within the welding industry, both inside and outside of the prison setting. Students who participate in the welding program will develop job-entry-level skills in:

- Oxy-Fuel Processes
- Arc Welding Processes Which Include:
  Shielded Metal
  Gas Metal
  Flux cored
  Gas Tungsten

Students will produce high-quality fillet and groove welds on ferrous and non-ferrous metals in all positions.

Within the Michigan Department of Corrections, Welding programs are offered at Handlon and Kinross.

The program is approximately fourteen months long.

The information below is based on data gathered from site visits:

Context

The welding program has about 15 students working on different projects in a large garage-like setting. The instructor indicated that students work in a classroom setting before they start working on actual welding projects. There is a different instructor in the classroom, and that instructor handles all the units that are taught in that section. They take a safety test and a written test for each different kind of welding. Some students may take less than a month to complete the classroom assignment, others as much as two months. When finished in the classroom, students then go to the shop to work on various projects, for example, building storage carts for the prison, or repairing chairs or any type of metal that may be broken and can be fixed with some type of welding. Students work independently and the instructor moves about assisting students with any questions and/or concerns they may have about a particular project. The room was very clean and well-organized and all students were wearing safety glasses. The class is structured so that students know what they have to do at each welding position. Instruction at this point is mostly verbal.

Program Outreach

One instructor was able to get a lot of material for the welding class from an outside source. There was no cost, and all the metal and materials would be welded into different things and then scrapped and sold for whatever the scrap was worth. Now that the place is no longer in business, the instructor must buy the materials needed for the shop classroom. While that tends to be costly, other departments in the facility are now requesting projects for the class and the money that is being spent on materials is staying inside the facility to pay for materials that the class can assemble/repair through welding. Also, the instructor does not have a lot of opportunity to go outside the facility since he is full-time in the shop classroom.

Curriculum

The course content covers oxyacetylene welding, brazing and cutting; arc welding, brazing and cutting, and plasma arc cutting. The program is 400 hours and once they have completed the classroom work, students go to the shop and begin the hands-on learning with oxyacetylene welding. After about 60 days students move to arc welding tasks which takes about a year to complete. A new progress plotter is being completed by both welding instructors in the state for more consistency in the program and to prepare the student to perform the state-of-the art welding processes required of entry-level workers in the industry.

Professional Development/Quality of Instruction

While there are only two welding programs in the state, both instructors were recently asked to work together to develop a progress plotter and build a more consistent program for corrections. One instructor has been with the program since 1980 as a teacher's aide then as a classroom instructor, then a separate welding program instructor for about six years. He has written his own tests using welding textbooks and has developed his own style of teaching through experience. At one time there were twelve welding programs in the state, but because of security issues and the expense of security, the programs were too costly to operate. Instructors have to be aware of both security and classroom teaching, i.e., how to setup a shop with a high level of security and provide a quality training experience in welding.

Technology

There were no computers in the welding program.

Evaluation/Assessment

Students receive a certificate showing the number of hours they have spent in the program and the types of welding they have learned, as well as their test scores from the written tests. Many students do not complete the program due to transfers to other facilities in Michigan as well as out of state. Some of the best students are sent out of state and the concern is that many students are not completing the course.

Program Title: Pre-Release/Life Skills

Program Overview

The primary objective of the Pre-Release/Life Skills program is to prepare inmates for successful re-integration into society. This includes life skills that focus upon:

- Stress Management
- Anger Management
- Employment Skills
- General Health
- Social Issues

In some institutions cognitive restructuring techniques are used in the pre-release/life skills program.

The pre-release program could be completed in about 12 weeks.

The information below is based on data gathered from site visits.

Context

While interviewees reported that inmates could benefit from enrolling in a pre-release/life skills class, there were marked differences in the programs offered. Female inmates generally entered the pre-release program with fewer than eight months remaining on their sentence. In the men's facilities pre-release programs differed dramatically facility to facility. Some had actual pre-release courses, others had a pre-release component as part of a vocational class, which is the main reason for reviewing this program.

Program Outreach

Instructors indicated they have interaction with various service agencies across the state. However, pre-release programs vary across institutions and there is limited networking among instructors in the programs. One instructor identified a county level resource manual compiled via the Internet which is individualized once it is known where an inmate will reside upon release. In addition, one female institution provides an inmate assessment prior to release to identify needed resources and support options.

Curriculum

The female offender program plotter indicated that five hours out of a 25-hour course curriculum is used to identify community level resources, and develop job seeking and employment skills. The remaining 20 hours, which includes employability and job seeking skills, also addresses esteem issues and community re-integration strategies. Additional topics have been introduced into the curriculum that heightens inmate awareness relative to various medical and social issues. The plotters reviewed were from female institutions. No formal plotters were received from male institutions.

Workshops, lectures, self-help programs and various types of demonstrations were the primary methods of instructing the pre-release curriculum. Regular attendance at classes that met three to four times per week for three or four hours was sufficient to progress through the pre-release curriculum. Interviews at male facilities suggest a lack of uniformity in pre-release curriculum as well as an uncertainty regarding inmate eligibility. For instance, it was indicated at one male facility that inmates could enroll in pre-release at their leisure and it was not uncommon for inmates to experience the program years prior to their date of first release.

Professional Development/Quality of Instruction

Responsibility for the pre-release program varied across institutions. Additionally, instructors reported limited exposure to teaching practices but believed in their ability to present relevant and much needed material. Resources varied among instructors. Instructors at female institutions presented more materials expressing a wider array of subject matter and role play instructional methods.

Technology

While female facilities were more diverse in pre-release curriculum in comparison to male facilities, the primary method of instruction was lecture. Instructors at female institutions spoke to the availability of persons within various agencies and community colleges who come to their facility and addressed current issues.

Evaluation/Assessment

The researchers did not see a method for assessing whether students understood the concepts in a pre-release/life skills program.

Program Title: ABE/GED

Program Overview

The purpose of the ABE/GED program is to give students the skills needed to obtain the GED. Within the Michigan Department of Corrections, these programs are offered at all correctional facilities. Since 1995 a guiding principle of MDOC has been that, if capable, offenders who leave the supervision of the department will have attained at least the GED certificate. Instructors may teach as many as six classes a day with as many as 24 students in a class. Students enter the ABE/GED programs with skill levels that range from zero to eighth grade.

The information below is based on data gathered from site visits:

Context

The ABE/GED programs reportedly have little relationship to the vocational education programs, although both academic and vocational instructors say stronger connections would be welcome. A new computer curriculum, Invest Learning, is being piloted in some of the prison academic programs. The academic programs have undergone many changes in the last several years. One instructor reported programs used to be taught by content-specific instructors. Now, in many of the programs, teachers who teach math also teach reading or writing. Most facilities run four to six classes a day in math, reading, and writing. There is a waiting list for the programs. In most of the institutions, it was reported by administrators and teachers that only about 35% of the inmates have their GED or high school diploma when they arrive. The GED level was the number one priority within most schools.

Program Outreach

Little program outreach exists within the academic programs. Instructors suggested the program could benefit from the use of outside resources, such as connections to public school or community programs.

Curriculum

Standard curriculum plotters are used to teach ABE/GED students. The curriculum is self-paced and computer assisted. The program recently implemented the Invest Learning System. The cost of the system has kept the numbers of computers with Invest down to less than a class size. One instructor said there were only enough Invest computers for a little more than one-third of the class. The other two-thirds of the class worked from EDL textbooks while the other students are on the computers.

Professional Development/Quality of Instruction

Instructors reported that professional development opportunities were lacking in the ABE/GED programs. Recently, though, instructors took part in Invest training. It was reported that while instructors are able to get administrative leave, most professional development is not paid for by the prison. They report no sense of belonging to the Correction Education Association. One instructor reported not having met with other instructors across the state for five or six years, thus limiting opportunities to learn about best practices.

Technology

The academic programs are using computer-assisted technology through the Invest program, but the cost of the program has limited the number of computers a prison has programmed, which in turn limits the number of computers available for students.

Evaluation/Assessment

The Invest Program can assess students on-line. They must master a level before going on to the next level and their scores are individually recorded on the computer in an administrative management file used by the instructor. Some schools offered partial GED testing which allowed a student to take part of their GED at two different times in order to achieve a total passing grade for the overall test.

Summary of Program-level Findings

A total of nine different vocational programs within the Department of Corrections were included in this study. The radio and TV and small engine repair courses were being phased out during the study and were not included. In addition, autobody and automechanics classes were merged. Finally, machine tool and meat-cutting were offered at only one institution and, therefore, were not included in the study. In addition to the vocational programs, the study also visited briefly with staff from ABE/GED and pre-release to understand the relationship, if any, of these courses to the vocational courses.

The following themes emerged from a content analysis of these data as significant dimensions of vocational education at the program level: program context, program outreach, curriculum, professional development, quality of instruction, technology, and evaluation and assessment. Within program context, waiting lists, classroom space, transfer, and employment within the facility emerged as issues that are potentially influencing a student's ability to complete a given course of study.

Most of the programs exhibited progress plotters which specified what is to be taught within the program. These plotters are the result of a statewide effort to standardize the curriculum within a given program area across facilities. Yet, there remains considerable variation in what is taught within these programs and the resources and materials being used to implement these curricula.

For the most part, instruction consists of some combination of didactic and hands-on experiences. Didactic instruction often reflects reliance on texts or other printed materials and audio-visual materials. Direct instruction, involving the teacher providing instruction to students, usually involves one-on-one interactions with students. Hands-on or more experiential instruction was also utilized, involving demonstrations, simulations, and apprentice-like experiences. Considerable variation was observed within the study in proportion to these two forms of instruction utilized in any given program across facilities.

Most vocational programs involve teaching the appropriate use of tools and other equipment appropriate to the area. The use of computer-assisted technology in the vocational classrooms, however, is minimal. Exceptions to this observation are graphic arts and printing and the optical program. In the ABE/GED classes computers are used for reading, writing, and math programs. EDL is the prominent software used for these purposes but more sites are gradually adopting Invest software as well. In some instances, INVEST is replacing EDL, while other sites are using the two together. Most vocational teachers were not aware of INVEST or, if they were, knew very little about it.

Student progress is usually documented using the progress plotters. Procedures for assessing student progress include written tests and observation of performance. Use of observation of student performance on specific tasks also varies within a given program across sites. Certificates are provided upon completion of the course but requirements for completion also varied by facility.

Most of the teachers included in this study participate in a nominal amount of professional development, but the nature, quality, and effectiveness of these experiences varies considerably. Many are not members or active in the association for correctional educators in Michigan. A few teachers have visited teachers at other sites but these opportunities seem lacking. While 40 hours of professional development per year is required of instructors, they must often pay for and find their own trainings, opportunities for certification, and so forth.

Program outreach differ by program area, ranging from no contact with outside agencies in the ABE/GED programs to significant outreach with outside vendors in the custodial maintenance program and community agencies in the horticulture and building trades program. Instructors indicate that it would be beneficial to have contact with outside agencies as a connection to employment for inmates upon release. Program staff has very little contact with secondary schools and community colleges. Instructors indicated that it would be beneficial to meet with other instructors teaching the same courses in corrections, and food services instructors were currently benefiting from this arrangement.

Interfacility-Level Findings

The second broad category, interfacility level findings, describes processes, structures, and other factors among facilities that offer vocational education programs within the state correctional environment. These findings are derived from the multiple sources of information described in the previous chapter, including interviews with principals and instructors at the Michigan correctional facilities included in this study. However, the majority of these findings were derived from facility administrators (wardens, deputy wardens, assistant deputy wardens, and classification directors) and central office staff. Taken together, these issues represent concerns that are potentially influencing the overall quality of these programs at both the institutional level and at the state level.

Based on these data, we identified several interfacility issues which are, in varying degrees, influencing the overall quality of vocational education programs in the Michigan Department of Corrections. These are:

1) Varying interpretations of security needs as they impact the development and implementation of educational programs at individual facilities;
2) Needs of the facility in determining vocational programming for individual students;
3) Educational levels and needs of individuals as they enter or re-enter the corrections system;
4) Transfer of inmates to other facilities while enrolled in a vocational program;

5) Variation across similar programs at different facilities in the specific curricular and instructional experiences provided;
6) Variation across facilities in the pre-release program;
7) Disparity across facilities in funding and other resources available to any given program area;

Security needs

Security was clearly identified in all sites visited as the first priority for prison staff, including educational staff. Within this context of need for security, however, there is recognition of the need to include and expand vocational offerings to inmates. Correctional staff members believe that the lack of marketable skills is a contributing factor to incarceration. Administrators feel that it is the responsibility of the state to enhance the educational background of inmates in an effort to decrease the likelihood of recidivism.

But what is considered possible or doable varies from site to site, depending on how this need for security was interpreted. The specific, designated security level of the facility in which a program is located does not seem to be a major factor in determining what can be provided in the vocational area. For example, we observed educational practices and experiences occurring at level four facilities that were not allowed at a level one facility.

There is also variation in the extent to which facilities address or recognize the tension between the need for facility security and the need to provide inmates with employable skills. Several administrators told us that one objective of their vocational programs was to provide inmates with marketable skills and they did not want to utilize security as the reason for not introducing new marketable vocational courses into the prisons. Others, however, stressed the priority of facility security and considered certain vocational programs or certain kinds of instructional practices as clear security threats.

One of the specific ways in which this tension gets played out is in those facilities that provide differing levels of security within a single institution. The need to keep separate within the educational programs inmates in different levels of security causes considerable scheduling problems and logistics. Administrators commented that, while it was perceived a security risk, classrooms are at times half full and waiting lists are longer in part because classes are often taught or duplicated in accordance to security level. That is, often only level 2 secured inmates may have instruction in the morning whereas the same instruction is repeated for level 1 secured inmates in the afternoon.

Meeting facility needs through vocational programming

A tension also exists in vocational programming between the needs of the students for particular forms of training and the needs of the institutions for inmate workers. Variation exists across programs to the extent in which institutional needs take priority over the need of the individual for specific occupational training. In several facilities, the type of vocational education programs offered reflects the needs of the institutions. For instance, administrators commented on the benefits of custodial maintenance to the facility. It provided inmates with a skill that enabled them to earn an income while incarcerated and possibly a job in the maintenance area upon release.

There is concern, however, that, in some instances, institutional needs for skilled workers may be driving vocational programming, at the expense of programs that may better address the needs of the inmates for marketable skills. Many participants in this study expressed the need for vocational programs to reflect marketable jobs currently in demand that could yield a relatively good quality of life. Both administrators and instructors reported that since an inmate was only allowed to pursue one vocational course while incarcerated, that course should be of greater value to the inmate and not the prison.

Educational needs of entering or re-entering individuals

The state's reception centers inform individual facilities of the inmates' security levels, and their educational, psychological, and social needs. This information largely drives the nature of the educational programming that may be provided for any given inmate. The majority of inmates enter Michigan prisons without a high school diploma or GED. Many have some type of learning disability and their reading levels are below the 4th grade. A few of the students (less than 10 percent of those enrolled) are in the special education category. Hence many inmates enter a particular facility with a requirement for adult basic education classes, GED classes, regular work details, vocational training, and at times various types of counseling.

Administrative staff is supportive of the need for inmates to first acquire their GED prior to receiving vocational training. In fact, some facilities did allow inmates to enroll in a vocational course without having completed the GED. This was particularly true in a few cases where an inmate completed a vocational program earlier and was still incarcerated years later. However, these were the exceptions and not the norm. Given this policy, there is a concern for a smaller percentage of inmates perceived incapable of attaining their GED.

Transfer of inmates

The transfer of inmates who are enrolled in vocational and academic programs is perceived by many staff members to be an obstacle or challenge for providing effective educational programming. There is, however, variation on the seriousness of this issue across programs and practitioners. Many participants in this study feel that transfer is a major impediment to inmates satisfactorily completing the programs for which they are enrolled. Others, however, indicate that transfer is not a major problem because they requested that those inmates enrolled in classes be held until they completed the course.

There is also variation in the perception of how well communication of appropriate information is provided for inmates being transferred from one facility to another. In some cases, programs wait several weeks before receiving any information from the transferring institution. Inmates are sometimes placed in new programs before this information arrives at the inmates' new facility. In other cases, however, the process of providing information seems to occur more smoothly. It is not clear from our findings what specific factors influence this variation.

Variation in curricular and instructional experiences provided

Related to the issue of transfer is the variability in what is offered within any given program across different facilities. Currently upon transfer an inmate has to participate in a program at another facility that may be considerably different than the program initially enrolled or the program may not even be available at all at the new facility. While administrators indicated that, given the recent implementation of the Invest Learning Program, standardization and tracking was underway in educational program areas, implementation of this computer-based system is almost nonexistent within vocational program areas. Programs vary considerably in the nature of the hardware and software resources available to them. In most instances, vocational instructors were either unaware of this statewide effort around INVEST Learning to address their curricular and instructional needs or knew very little about it.

There is also considerable variation in the process of certification within vocational programs. Administrators believe that officially certified programs would enhance an inmate's opportunity for employment upon release. Yet, there is the recognition that programs vary considerably across facilities with regard to both the requirements and process for certification within a given vocational area.

Variation in the pre-release program

Our data suggests that there is considerable variation in the nature of pre-release programs provided by the various correctional facilities. They vary in terms of what is offered, how it is offered, and the amount of time devoted to it. There is even concern that not all inmates are actually receiving or participating in a pre-release program prior to leaving the prison facility. There is strong indication among the participants in this study of the need for a more effective and systematic pre-release program within the Department of Corrections.

Disparity in financial and other resources across facilities

Another challenge to establishing effective vocational programs across prison facilities is the availability of resources. Administrators indicate considerable disparities in funding across prisons. This disparity contributes to a lack of technical equipment for some and shortages of space for others. A few programs have near state-of-the art computer equipment and software. Many, however, limp along and struggle with using outdated and obsolete equipment and software programs. Other programs experience staff-related issues. It is not clear from our findings what specifically is contributing to these apparent disparities in funding and other resources. But they are very real and are reflected in the overall nature and quality of instruction and learning experiences provided across sites.

Overall, facility and regional administrators are supportive of the ideals regarding educational and vocational achievement. However, the route towards achieving these ideals varies considerably across facilities.

Statewide-Level Findings

In this section, we present findings related to the leadership, policies, and procedures at the level of the Central Office within the Michigan Department of Corrections. These findings are organized according to:

1) Mission and vision within the Department related to vocational programming
2) Leadership at the state level
3) Role of the Department's educational office in addressing curricular and instructional issues

Mission and vision related to vocational programming

In 1995, the Michigan Department of Corrections developed a comprehensive education plan for its facilities. This plan articulates an overall vision and approach to educational programming, including academic and vocational education, within Michigan prisons. It is not clear, however, from our data that this plan significantly influences or guides the design and deliver of these educational programs. Many of the individuals participating in this study were not even aware of its existence, let alone what was in it.

Central Office administrators responsible for education programming in the corrections facilities include both academic and vocational education within their overall view of educational programming for the prison system. A clear and definitive program philosophy, however, was not evident at the Central Office level. Program outcomes were identified for vocational education but in general and somewhat vague terms.

In general, they are supportive of vocational programs but they stress academic programs in particular, based on the fundamental belief that academic achievement will reduce recidivism. Central Office policy emphasizes the importance of having inmates study for and pass the GED test. The Department is guided by the primary educational objective to enable as many inmates as possible to leave prison with their GED or high school diploma. It appears that this position represents enactment of policy passed by the state legislature. This legislation requires individuals entering prison as of December 15, 1998 who do not have a high school diploma or equivalent to pass the GED test as a condition for parole.

At the state level, DOC views vocational education in terms of two primary functions. First, wardens are particularly fond of vocational programs that assist in the maintenance of their facility. Programs such as building trades, custodial maintenance, and horticulture are supported by wardens in part because these programs assist in maintaining the facility. Moreover, these programs help curtail idleness among the inmate population and provide inmate income.

The second function of vocational programs is to provide inmates with marketable skills that will enable them to afford a relatively stable quality of life upon release. Marketable skills will help inmates find rewarding employment and enable them subsequently to be less likely to recidivate. Less prominent but still evident among

Central Office staff is the belief that completion of vocational education or training is the positive effect it has on the inmate's self-esteem which, in turn, contributes to decreasing the likelihood an individual will be returned to prison upon release.

Leadership

Over the last several years, educational programming, particularly in vocational education, within the Department of Corrections has been adversely affected by relatively high rates of turnover among senior level positions. This instability in key leadership positions has resulted in a "wait and see" attitude at times among Central Office staff. With individuals moving in and out of these key positions, it has been very difficult to develop and sustain initiatives around vocational education.

The political environment at the state level and within the state may also be influencing the process of change in vocational programming and the willingness to work toward a more standardized curriculum. For example, despite some efforts by the Central Office to move the revision process along, some programs may have been delayed in the revision process because of concern for how the general public or legislature might respond.

Security issues override programmatic issues, even at the state level, and the Central Office staff perceive themselves as having relatively little ability to advocate for vocational education in the face of over-arching concerns among the facilities for security. While the Central Office may make recommendations to wardens, the wardens are not under their direct control. For example, the decision to enact a new vocational program is heavily influenced by the inspector and warden. Although these individuals do not make the final decision, their support is critical for effective implementation. It appears that Central Office staff feel somewhat powerless in their ability to successfully implement strategies within prison facilities.

Role in curriculum and instruction

Variation among Central Office staff was apparent regarding perspectives on vocational program content and implementation. For instance, this staff was aware that a lack of definition and standardization of curriculum across institutions was a problem in the Department's vocational programs. But they differed in their understanding regarding how such differentiation occurred.

In general, these differences were understood to be a concern and reflect administrative issues, budgetary differences and political constraints internal and idiosyncratic to individual facilities. Inspectors and wardens at each facility greatly influence vocational programming. Philosophy and implementation of vocational programs varies in part because of how facility administrators perceived the need for such programs.

Differences in vocational programs may occur in relation to the interpretation of policies that stem from Central Office. For example, the in-service training requirement for facility teachers appears significantly influenced by facility administrators. There is also considerable facility variation in inmate access to vocational programming relative to possessing a high school diploma, in part because no written policy directive exists at the state level to help shape and guide practice in this area.

Central Office staff also pointed out that vocational programs are more costly than general educational programs. Because all institutions are not funded exactly the same, some facilities have more resources than others for space and equipment. Budgetary issues impact both academic and vocational programs. To that end, implementation of INVEST is perceived to address the issue of standardization of the educational curriculum. However, only one administrator spoke of its potential applicability to vocational programs.

The lack of a standardized vocational curriculum is of concern to Central Office staff. An apparently once-active curriculum committee somehow faded away for a period of three or more years. They are now focused on reinvigorating this statewide committee. Still, frustration exists over a lack of agreement on a procedure to standardize vocational programs and curriculum through a mechanism that solicited input from a number of different sources.

Survey of Employers Attitudes Toward Hiring Ex-Inmates

It is well documented that the employment of ex-offenders in stable, high-wage jobs following release is an influential factor in the rate of recidivism and their overall quality of life. Gerber (1995) and Crutchfield (1997) report that quality employment may be the single most important aspect of the rehabilitation of offenders and their reintegration into society. The ability of ex-offenders to secure and keep a good paying, steady job are influenced by a number of factors which can be classified as intrinsic to the individual, or extrinsic and environmental. Of particular interest is an understanding of the extrinsic factors, and a determination of whether there exists factors which impede employment of ex-offenders in ways different from the rest of the population.

Policies, or statutory limitations to the hiring of ex-offenders

None of the twenty-five employers surveyed cited institutional policy or legal prohibition to the hiring of ex-offenders, although health care providers indicated some limits in specific areas. For the positions of interest in this survey, no limitations were stated.

Cultural limitations to the hiring of ex-offenders

Again, none of the employers surveyed stated an aversion to the hiring of ex-offenders, yet 14 indicated that the applicant's ex-offender status would be considered in light of his or her technical skills, communication skills and personality traits as could be determined. Four employers (all small building contractors) stated that the ex-offender status would not play a role in the hiring process provided that the individual "looked good" otherwise. Six employers stated that if an application indicated that an individual had a conviction, but it was for a "minor" offense and an acceptable explanation could be given, the ex-offender status would not be held as a negative in the hiring process. The three largest employers all indicated that culturally, ex-offender status would be considered on a case by case basis, in light of the individual's overall characteristics and the position to be filled.

Specific technical skills

Each employer indicated need for employees with specific skills applicable to the business in which they were engaged. In fact, having appropriate skills appears to be the key in the hiring process, allowing the ex-offender status to be negated totally when the skill set is appropriate. A quote from a building contractor who employs two to three workers indicates the need for skills. "What I need are a couple of carpenters, not laborers. I can find all the laborers I want. I need employees who have the skills and experience to read the blueprint, modify the work as necessary, and see what needs to be done. Guys who want to stand around and be told what to do are easy to find. When I find a guy with the right skills, I am glad to pay him what he is worth."

The feeling was echoed by the owner of a small machine tool business employing about twenty workers, nine of whom were skilled machinists. "Do you know how much business I turned away this year because I just could not do it? There are basically no machinists to be found. I can find lots of people without skills or motivation to learn, who want to get paid like a machinist, but no skilled help. If a convict with skills comes to my door I look at the skills and the personality just like any other applicant. The conviction has no bearing."

Workplace readiness skills needed

The employers in this survey indicated desirable traits of newly hired workers included dependability, communication skills, attitude and work ethic to be of most importance whether the applicant is an ex-offender or not. These personal attributes desirable in an ex-offender are similar to those within the general population as expressed in other employer surveys.

The limited telephone survey of twenty-five employers indicates that from the employer perspective, the extrinsic factors associated with the employment of ex-offenders do not differ significantly from those affecting the population as a whole. Keys to securing high wage, stable employment include: skills, attitude, dependability, motivation, and the ability to communicate. Not unlike any other job seekers, ex-offenders who have the attributes listed should find opportunity for quality employment.

Summary of Interfacility, Statewide-level and Employer Findings

The overall quality of vocational programs within the Michigan Department of Corrections is effected by structures and processes that extend beyond the parameters of a program at any given site. In this report, we group these factors as inter-facility and statewide. Factors that are evident at the interfacility-level include varying interpretations of security needs, the role that institutional needs for workers plays in what is offered and taught within any given program area, transfer policies and procedures, the degree of articulation across sites within any given program curriculum, and variations in availability of funding and other resources to support vocational programming. Vocational offerings and curriculums are not standardized across facilities. In addition, facilities vary in terms of: vocational resources, admission standards, restrictions on inmate enrollment, handling inmate transfers, movement of records accompanying inmate transfer, contact with the larger vocational community, and security procedures.

At the statewide-level, turnover at senior levels within positions directly responsible for educational programming within the Department has made it more difficult to initiate, sustain, and follow through with efforts aimed at improving the design and delivery of vocational education within the prisons. There is no explicit and clear philosophical perspective to frame and justify vocational education evident at the state level. Although a statewide Education Plan exists for the Department, it is not clear the extent to which it guides the day-to-day decision-making of Central Office staff or local program staff. Variation and lack of standardization within vocational curricula remain a considerable challenge for the educational staff within the Central Office. State-wide curriculum committees have been organized to develop consistency in progress plotters. Beyond these, however, not much else is being done to improve articulation of curricula across sites. Lack of standardization is attributed to decisions being made at the facility level, over which Central Office staff feel relatively powerless. There is virtually no follow up in place for determining the extent to which vocational education is helping former inmates obtain gainful employment and avoid the "revolving door" characteristic of the lives of so many inmates and former inmates.

The findings also suggest that there is considerable awareness among Central Office personnel and facility personnel regarding these issues. There is also considerable interest in addressing these issues, which they believe have a direct and significant bearing on the overall mission of the Department. Central office and prison staff believe that education is a necessary ingredient to combat recidivism. Moreover, there is a general sense that, while security is the central focus of both the Department and the facilities, it should not be a reason to restrict educational and vocational offerings. Expansion and possible revision of the vocational curriculum are considered appropriate avenues for future consideration.

A modest survey of potential employers of former inmates suggests that explicit policies or hiring procedures do not necessarily adversely affect a former inmate's chances of obtaining employment. Each person is generally considered on a case-by-case basis. Having specific technical skills needed by the employer and the attitudes necessary to perform one's work consistently and at a high level were considered to be very important in making decisions to hire former inmates. Thus, potential employers look to the corrections vocational programs to provide inmates with specific marketable skills and attitudes and interpersonal skills needed for quality employment.

CHAPTER FIVE

ANALYSIS AND INTERPRETATION OF FINDINGS

In this chapter, we present an analysis and interpretation of the findings presented in Chapter Four, based on the framework of Best Practices presented in Chapter Two, the Michigan Career Preparation System, labor market trends, and the MDOC 1995 Education Action Plan. Our analysis aims at identifying specific areas of vocational education within the prison system that, if acted upon, will likely result in overall improvements in the structure, processes, and outcomes of these programs. For each of the Best Practices, we first provide a brief synopsis of what is included in that dimension of practice, and then the specific findings of this study relevant to the dimension.

Discussion of Findings by Best Practices

Statewide Leadership, Policy, and Direction

State leadership best practices insure that effective lines of communication exist between local programs and the central office. The roles of central office education staff are clearly delineated and known to local program staff, and the 1995 MDOC Education Plan is used to guide policy and curricular decisions at the state and local levels. State leadership is responsible for coordinating vocational programming in the state and insures adequate and equitable funding policies.

The instability in key positions of leadership within Central Office is adversely affecting the Department's ability to address much-needed changes within the vocational education area. Turnovers within the last 10 years have made it difficult to maintain consistency in programming and policy. As a result, less attention has been given during this time period to issues in vocational education.

Interviews with central office and facility staff indicated that ambiguity exists relative to the roles of central office personnel. In particular, facility personnel expressed concern regarding functions of central office personnel. Moreover, there was a tendency to question legitimacy of directives that originate from central office personnel that do not appear grounded in policy. Thus, there appears a need for stricter lines of communication between central office staff and facility personnel that require little, if any, interpretation.

The 1995 MDOC Education Plan has the potential to guide policy and decision-making relative to vocational education. But there is little evidence from this study that it is being actively used in guiding policy and decisions affecting vocational education. It is now about five years old. Adherence or development of a comprehensive educational plan similar to the 1995 MDOC Education Action Plan that more fully describes goals, objectives and prescribed methods for attaining specific objectives would clarify goals, objectives, procedures as well as staff roles and functions.

The lack of standardization of programs, funding disparities, and other inequities between institutions represent major challenges for the Department's educational leadership. These factors represent very significant barriers to improving vocational education. A statewide curriculum effort has begun to attempt resolution at issues related to articulation of curriculum but its effect to date on addressing these issues seems fairly limited. In addition, these committees are not directly addressing other issues of disparity, such as financial resources available to any given program.

Several policies enacted at the facility level were identified within this study as needing to be addressed. As indicated in Chapter Four, several programs require minimal reading or math levels as prerequisites for enrollment. But there appears to be relatively little consistency in specific levels required within any given program across facilities. These requirements appear to be established at the facility level. The lack of consistency in these requirements may cause problems for vocational programs in several ways. The most obvious of these is the effect it may have on students being transferred from another facility.

Yet another challenge to establishing effective vocational programs across prison facilities was availability of resources. Administrators indicated disparities in funding across prisons. This disparity contributed to a lack of technical equipment for some, shortages of space for others, and yet others experienced staff-related types of issues. Thus administrators, especially those who felt strong need for additional resources, articulated the need for a more equitable method of funding disbursement.

Considerable variation is also evident within the pre-release programs across the different facilities. For the most part, these programs are falling far short of what is possible. We observed a few exceptions to this finding. Pre-release programs articulate with and extend the goals of specific vocational programs. They serve a facility-level function in enhancing the likelihood of an inmate's success on the outside. Yet, this articulation is not readily apparent at most sites.

Finally, the concept of cognitive restructuring surfaced in visits with some facility administrators and our visit to Fox Valley and Oshkosh Correctional facilities in Wisconsin. This approach is intended to help address problems in inmates' beliefs and attitudes that may, once they are released, provide difficulty for them in staying out of trouble and prison. It also provides a means of helping inmates adapt more constructively to prison life. Focusing on inmate's beliefs and attitudes represents an important task for facility leadership. While we did not specifically gather information on what facilities are doing in this regard, the concept of cognitive restructuring raises questions about what and how much individual facilities are doing in this area.

Interfacility Cooperation and Communication

Effective best practices state that mechanisms should exist for education staff from different facilities to communicate with each other and share information. Systems of communication are in place for transferring student records and other information related to specific vocational programs.

Interviews with facility personnel shows that vocational programs vary not only in name but content as well. Institutions also vary in terms of the structure and processes that characterize their academic and vocational programs. There also appears to be variation in the flow of inmate-related information across facilities. While some individuals participating in this study indicated little problem with getting this information to and from institutions, others spoke of weeks of delay and having to place transferred inmates before they received this information.

Partnerships with Local Education Agencies and Employers

This aspect of practice is defined as relationships existing with local area employers and education agencies and those agencies are used in planning and implementing vocational programs.

The findings suggest relatively little involvement of "outside" agencies and groups in the planning and implementation of vocational programs at either the local or state levels. No formal relationships were observed (for example, in the shape of an advisory committee or involvement of non-corrections personnel in planning groups). Individual programs have no formal relationships with local area educational agencies or institutions, such as the Intermediate School District, or a local community college.

In some instances, the curriculum committees appeared to be working informally with local educational agencies, such as community colleges or employer groups. These relationships are largely the result of initiatives by individual instructors or principals. In some programs such as Building Trades, instructors maintained informal relationships with community agencies, educational institutions, and local employers. Other teachers indicated that the local area educational agencies and post secondary institutions were a resource for updating curriculum in their area, but no formal exchange of curriculum materials or teaching techniques took place.

College programs in the women's prisons were in effect at the time of the interviews. Only one of the men's prisons had college-level programs. There was no attempt to include college programs in the other men's facilities at this time, but several wardens, deputy wardens, and principals indicated that they had anticipated such plans for the future.

The survey of employers suggests a strong interest on the part of this group in the overall quality and content of vocational programs in the prisons and an interest in helping shape the nature of these programs. The limited telephone survey of twenty-five employers indicated that from the employer perspective, the factors associated with employment of ex-offenders did not differ dramatically from the rest of the population.

Facility Leadership and Policies Affecting Educational Programs

Effective programs are characterized by a clear mission and vision for educational programs at the facility level. There is agreement among the administrative staff with regard to the policies and procedures affecting these programs. The facilities use data to identify strengths and weaknesses as they seek to improve their educational programs.

The findings suggest articulation and consistency between statewide policies and procedures and polices and procedures at the facility level. While some differences are evident among some administrators around specific issues, in general facility administrators (wardens, principals, and classification directors) are in agreement with policies and procedures affecting educational programs. Administrators, in general, believe that education is a major factor needed to reduce recidivism.

There appears to be strong agreement between central office personnel and facility personnel regarding goals for vocational education. Both groups agree that education is a necessary component of the overall mission of the Department. However, the level of this agreement among individual facility administrators varied from site to site. Facilities where principals have support of upper level administrators (wardens and assistant deputy wardens) vocational programs and inmate access to programs appears enhanced.

For the most part, facility level administrators believe that education is important to the work of their facilities. Operationalizing these beliefs in the form of specific policies, procedures, and funding, however, varies considerably.

Administrators alluded to the problems with needing to keep security levels separate and suggested a need to re-examine this policy for vocational education. Many commented that while it was perceived a security risk, classrooms are at times half full and waiting lists are longer in part because classes are often taught or duplicated in accordance to security level. That is, often only level 2 secured inmates may have instruction in the morning whereas the same instruction is repeated for level 1 secured inmates in the afternoon.

Few programs are making explicit use of some form of continuous program improvement process, or gathering information in systematic ways to inform or improve specific aspects of their program structures or processes.

Training, Experience, and Professional Development of Education Staff

Effective practices demonstrate that opportunities are available to education staff on a regular basis. Incentives are provided for staff to participate in training that will enhance their classroom teaching.

The majority of instructors interviewed have been with corrections for many years and are experienced correctional educators. Credentials of the teachers varies, from on-the-job experience to certification and licensure by the state or by an accrediting professional association. There is no specific state certification requirement for corrections teachers in Michigan.

The in-service training requirement for facility instructors appears to be influenced significantly by the facility administrators. There is considerable variation in how this requirement is addressed. There is also considerable variation in the vocational instructors' participation in regular and ongoing professional development activities. While some seem to actively pursue these activities, the level of involvement of many instructors in continuing education or professional development appears quite modest.

Intake and Assessment Procedures

Effective intake and assessment procedures identify the needs and interests of individuals and place them within appropriate vocational programs.

Most information used to place inmates new to the facility is provided by the Reception Center in Jackson or from the previous facility, if the individual is being transferred. For the most part, the receiving facility is provided with information on each inmate that might be regarded as "basic." This includes demographic information on level of security, educational achievement, and evaluation of psychological and social needs. Many individuals enter any given facility with requirements for ABE/GED classes, regular work details, vocational training or various types of counseling.

Administrators indicated adherence to inmate assessment and program recommendations received from reception centers. It is at these reception centers where inmates are classified in terms of security, and their educational, psychological, and social needs are evaluated. Many administrators indicated that the majority of inmates entered prison without a high school diploma or GED. Many have some type of learning disability and their reading levels are below the 4th grade. A few of the students (less than 10 percent of those enrolled) are in the special education category. Hence many would enter their particular facility with a requirement for adult basic education classes, GED classes, regular work details, vocational training, and/or various types of counseling.

In the case of inmates being transferred from another facility, it was not uncommon for educational staff at the new facility to wait several weeks for the appropriate information and forms to arrive from the transferring institution. What is eventually received may or may not include information on the inmate's participation in educational programming at the previous institution, progress, or areas of completion.

It is apparent that inmates are given a choice whether to enroll and in which vocational program they would like to receive training. At a rudimentary level, this approach may generate some information on the individual's vocational interests. It does not appear that institutions receive information on, or systematically assess an incoming inmate's vocational interests or job goals. What vocational program in which any one inmate may actually be enrolled is apparently a function of multiple factors, including what is available, waiting lists, the inmate's prior educational achievement, and the security needs of the facility.

In general, most programs require all participants enrolling in vocational education to have a high school or GED diploma. The most common exception to this rule was the Custodial Maintenance Program which often permits inmates to enroll without this prerequisite. This "waiver" is apparently exercised to insure that sufficient numbers of porters are trained to work within the institution itself. A few programs permit dual enrollment in both GED preparation and a vocational program.

Moreover, administrators were supportive of the requirement that inmates first acquire their GED prior to receiving vocational training. Many expressed concern for a smaller percentage of inmates perceived incapable of attaining their GED. It was thought that these inmates should be allowed to receive vocational training while attending adult basic educational classes. In fact, some facilities did allow inmates to enroll in a vocational course without having completed the GED. This was particularly true in a few cases where an inmate completed a vocational program earlier and was still incarcerated years later. However, these were the exceptions and not the norm.

Relatively few programs develop and use Individualized Education Plans for the inmates participating in vocational education. There was no evidence that inmates were systematically assessed for learning disabilities or learning styles or that information on these variables was used in planning or implementing their instruction. Waiting lists of varying lengths were observed for Food Service/Hospitality Management, Building Trades, Custodial Maintenance, and Optical.

Program Curricula

Effective curricular practice in correctional vocational education is competency-based, reflects needs of participating individuals and labor market trends, is consistent across facilities within any given program area, involves local educational agencies and employer groups, and makes use of statewide committees for planning, coordinating, and revising the curriculum.

The curricula for the vast majority of vocational programs offered through MDOC are documented in "progress plotters." These are documents that, for each vocational program area, list the specific topics, skills, or knowledge areas to be taught to inmates participating in these programs. They also provide means for documenting student progress in each of these knowledge or skill areas. Statewide curriculum committees have been meeting over the last few years to review and upgrade these curriculum documents. As a result, the specific knowledge and skills intended to be taught in each of the vocational areas is explicitly and clearly documented for most programs.

Yet, evidence suggests a number of concerns within the curricular area. The degree to which the progress plotters are competency-based varies from program to program. While some program areas clearly specify the particular skills that the students need to demonstrate, others simply list topical areas, with no clear indication of the specific skill or competency to be demonstrated. Some of the tasks listed on the plotters are assignments from the assigned text or workbook that need to be completed by the student. For example, in the Automotive Technology plotter, the tasks to be completed are listed as workbook chapters, job sheets, or shop activities, with no specific reference to the content of these tasks. The Electronics Technology program provides more specific listing of topics to be studied and mastered, such as sine wave and AC valves, transformer theory, and parallel resonance and filters.

The present progress plotters are the result of the work of several statewide committees charged with reviewing and revising the curricula within their respective occupational areas. It was not always clear how or on what basis they were determining the content of these areas. In some instances, the committees appeared to be working with local educational agencies, such as community colleges, or with employer groups. In other instances, there was less evidence of collaborative relationships or partnerships with outside agencies. In some cases, the text being used appeared to drive decisions as to what should be taught.

The currency of the curricula being offered also varies across facilities. This was perhaps most evident in business technology education. Some programs reflected near state-of-the-art curricula, while others were using curricula, materials, and resources largely considered out-dated by current standards in the outside world.

In general, most of the programs visited demonstrated a lack of curricular consistency across facilities, despite the presence of explicit curriculum and progress plotters. Food Service/Hospitality Management was an exception, where the teachers reported the relative uniformity of the program across facilities as an asset. This lack of consistency probably reflects a number of issues, but it was apparent that not all teachers in all programs used the progress plotters in the way intended. In Horticulture Technology, for example, teachers reported developing and implementing their own curriculum. Several teachers in different programs relied heavily on their own personal experiences and knowledge in their respective areas to determine what should be taught.

Teacher knowledge and experience is an important source for curricular knowledge but this source has to be considered in the context of labor market trends, institutional resources, and other factors. Given the nature of vocational educational programming within the prisons, it is difficult to sustain a highly individual approach to curriculum planning. The very nature of the context requires this process to be heavily collaborative, drawing on the expertise of multiple teachers, local educational agencies, and employer groups, as well as the knowledge of the field. In some programs, such as Building Trades, instructors maintain informal relationships with community agencies, educational institutions, and local employers.

It is also not clear how well the present set of vocational programs reflect labor market needs and trends. Educational staff pointed to the need for additional programs, such as computer repair, refrigerator and air conditioning repair, and others. A comparison with labor market analysis for the state of Michigan (See Appendix G) suggests a number of additional areas which could be explored as possible curricular emphases; i.e. repairers of engines, computers, bicycles, and electronic equipment; as well as roofers, pipelayers, carpet installers, ceiling and acoustical tile carpenters, retailers, occupational therapist aides, fire fighters, paving and surfacing operators, veterinary assistants, desktop publishing specialists, tool and die makers, millwrights.

The great majority of the facilities we visited maintain distinct and separate programs of academic and vocational preparation. The academic portion of educational programming usually consists of instruction in basic skills (Adult Basic Education or ABE) or preparation to take the GED. A few facilities also maintain college level programs. We observed very little articulation between ABE/GED programs and vocational programs. Our observations of ABE/GED were brief and quite limited but we did not see very much work-related or relevant occupational content to these ABE/GED programs.

Similarly, very few of the vocational programs attempted to incorporate basic skills instruction into their curriculum. Powerful models for integrating vocational and academic instruction at different levels of academic achievement are being widely disseminated but we saw no evidence that they were being seriously considered within the sites visited.

Instructional Delivery Systems

Effective instructional delivery systems in correctional vocational education are characterized by trained and experienced instructors, practice grounded in adult learning theory, state-of-the art technology and equipment, adequate instructional materials and resources, experiential, hands-on training, and appropriate job counseling.

The vast majority of the instructors interviewed for this project have been with MDOC for many years and are experienced correctional educators. Credentials of the teachers vary, from on-the-job experience to certification and licensure by the state or an accrediting professional association. No specific state requirements for education and training exist for the teachers. Some teachers may have years of shop experience running their own business but no more than a high school education. Other teachers, however, possess a Bachelor's degree in their area of expertise but have not owned their own business.

Much of the instruction provided in MDOC vocational education programs is individualized and self-paced, consistent with good adult education practice. Students were observed both working out of texts and workbooks and in more hands-on activities. Participants proceed according to their own abilities and needs and their progress appears to be driven by mastery of the intended knowledge and skills. Although observational data on instructional processes and relationships from this project were limited, instructors, in general, have good relationships with their students and respect them as learners.

Extensive and at least moderately current technology was evident in only two programs, Optical, and Printing/Graphic Arts. The most extensive use of technology was observed in Printing/Graphic Arts where, from the beginning, students are using software to learn graphic design skills. In the optics lab, students move from station to station, working with technology in the process of fabricating lenses. Use of technology in other program areas is minimal to nonexistent. In many cases where it is present, the equipment or software is obsolete. Instructors in several program areas talked of the need to upgrade both equipment and software. In Building Trades, instructors spoke of the desire to use INVEST in their teaching but indicated it was much too costly. In Business Technology, computers and software are old and out-dated, resulting in severe limitations in the curriculum. In one instance, new computers were evident but, due to a lack of technical support, had yet to be set up.

Other programs where instructors indicated the need for improved technology and equipment included Custodial Maintenance, Food Service/Hospitality Management, and Horticulture Technology. In Automotive Technology, the use of technology varies considerably but none of the observed programs make use of computer technology to any great extent.

Instructional materials and resources also vary widely from program to program and sometimes within a given program. For the most part, programs appear to have adequate instructional materials but it was not always clear that these materials were the most current and up-to-date. Several programs make extensive use of instructional videos to augment or amplify their training. In some instances, such as Building Trades, specific tools and other materials useful for training are limited by concerns for security. The ways in which security concerns influenced the nature of these programs, however, varies considerably from facility to facility. In some programs, certain curricular or instructional areas were not seriously considered because of the security concerns they presented. One Deputy Warden suggested, however, that almost anything could be taught given a convincing rationale, and if that were the case, they would find a way to deal with the security issues. Given the extensive vocational training and well-equipped vocational shops observed at Fox Lake Correctional Facility in Wisconsin, there would appear to be merit to this position.

Most of the programs observed provide some form of hands-on or experiential instruction. These experiences vary from simple simulations that seem to only roughly approximate real-world performance, to hands-on demonstrations, to on-the-job training within the prison facility itself. In a few instances, the level of experiential learning engaged in by the students seems minimal but most programs offer substantial opportunities for hands-on learning. The specific competencies being taught within these experiences, however, need closer examination and this relates to the concerns about curriculum discussed earlier.

Assessment and Follow-up

Effective practice in correctional vocational education involves assessing student progress at frequent intervals, providing timely feedback to the student on his or her progress, documenting student progress and completion, and obtaining information on student employment-related success after release.

In most of the programs observed, student progress is assessed using written tests. These tests are prepared by the teacher, based on the curriculum he or she teaches. Most of the programs observed also utilize some form of demonstration as a means of assessing skill. For example, in Building Trades assessments are made on projects students complete. Several instructors in Custodial Maintenance require that students demonstrate competence with the use of certain equipment and working with certain surfaces. Food Service/Hospitality Management requires their students to prepare a full meal. Test and performance scores are recorded on progress plotters kept for each individual student.

In general, when the student meets all the requirements of the program, he or she is presented with a certificate of completion. The specific requirements for completion, however, within any given program area appear to vary from facility to facility.

The two major concerns that emerged within this study regarding student progress and assessment have to do with program completion and follow-up of inmates released. With the exception of Custodial Maintenance, student completion of vocational programs within the prisons is relatively low. The majority of inmates who enroll in vocational programs do not complete them. A perhaps extreme but not uncommon example of this problem is represented by the comment of a business technology instructor. When asked about completion rates in the technology course, the instructor replied of the 40 or so students who begin the program, typically one will successfully complete the course of study.

The reason most often cited for the low completion rates among programs was the movement and transfer of inmates to other facilities. Usually transfer occurs without regard to the specific program in which inmates are involved or where they are in their course of study. Other reasons also contribute to low completion rates, in some programs, including institutional employment and parole. In addition, it is not uncommon for students to withdraw from a program just before completing it. By not completing, they are still eligible to enroll in another vocational program, thus avoiding the "one program rule." Inmates can theoretically build a repertoire of occupational skills, without actually completing any single program. Students also simply lose interest in or motivation to continue the program for which they enrolled.

No program observed in this study systematically gathers information on the outcomes of their instructional program, in terms of post-release, employment-related opportunities. In a few instances, instructors pointed to informal relationships with employers, which provided them indirectly with information on some of their graduates. When asked about this absence of information, program staff frequently responded that they were prohibited from contacting former students and had to report all contacts initiated with them by students. This lack of follow-up data presents considerable constraints on educational staff to determine whether their programs are contributing to former inmates' abilities to obtain and retain employment. The need for this follow-up is strongly recommended by a number of state studies (Minnesota study, 1993; Texas study, 1992) and by the Office of Corrections Education within the U.S. Department of Education.

Summary

The Michigan Department of Corrections has recently initiated several efforts to address the needs of vocational education within state prison facilities. In addition to the development of an Education Action Plan in 1995, statewide curriculum committees have been created in a number of program areas. Several of these committees have been meeting to develop more systematic and consistent approaches to their respective curricula. Attempts have also been made to update technology in some areas.

Our findings suggest, however, that much work remains to be done with respect to the overall goal of helping inmates develop more marketable skills, to improve the overall effectiveness of vocational programming within the Department. The Department needs to foster a strong and consistent vision for vocational education throughout its facilities. A number of current policies adversely affect vocational programming, in terms of inmate participation, completion of programs, updating technology, materials, and resources, and determining program outcomes. A lack of explicit and formal partnerships with employer groups and educational agencies external to MDOC contributes to problems of communication, cooperation, and currency and standardization of curricula. Progress plotters do exist for many programs but the quality of these plotters and their use varies considerably both across programs and facilities, as do instructional materials and resources available to the program instructors. In addition, the level of hands-on, work-based or contextual learning also varies but, in most cases, is modest at best. Many programs also suffer from out-of-date or nonfunctional technological resources. Finally, few programs have on-going continuous program improvement processes in place or procedures for obtaining information on their students once they leave the prison system. Due to a variety of factors, most vocational programs experience relatively low completion rates.

CHAPTER SIX

RECOMMENDATIONS FOR IMPROVEMENT IN VOCATIONAL EDUCATION PROGRAMMING

This section presents a set of recommendations derived from Chapter Five, Analysis and Interpretation of the Findings. They are arranged according to the framework for developing inmate success as outlined in Chapter Two, Toward an Emerging Set of Best Practices.

We first summarize the specific recommendations within each area of Best Practices. Then we provide a more detailed discussion and elaboration of each recommendation.

Summary of Recommendations by Best Practices

Statewide Leadership, Policy, and Direction

- Develop structures and processes to insure stability of statewide leadership related to vocational education.
- Revise and update 1995 Education Plan.
- Clarify roles of education staff in central office.
- Clarify lines of communication between education staff in the central office and facility staff.
- Reduce disparity in funding and other resources among different facilities with similar programs.
- Insure that similar vocational programs all use the same program title.
- Increase the allowable number of vocational programs that inmates can complete to at least two, with particular emphasis on those nearing their release dates.
- Develop specific policies and procedures to significantly reduce the effect of transfer of inmates enrolled in vocational programs.

Interfacility Cooperation and Communication

- Improve process for communicating information about inmates enrolled in vocational programs transferring from one facility to another.
- Develop a statewide advisory committee for vocational education, composed of representatives from the Department of Education, Chamber of Commerce or Jobs

Commission, community colleges, higher education, central office and facility administrators, principals, and vocational teachers from each program.

Partnerships with Local Education Agencies and Employers

- Encourage development of advisory committees at regional levels, consisting of individuals from local Workforce Development Boards, area community colleges, regional and facility administrators, principals, and vocational teachers from each program.

- Explore formal certification of vocational curricula by local community colleges or skill centers associated with the ISDs.

Facility Leadership and Policies Affecting Educational Programs

- Develop orientation booklets for academic and vocational programs available at each site, modeled after those used at Fox Lake Correctional Facility and other sites.
- Develop processes and procedures for continuous program improvement and implement these processes for each of the vocational programs being offered within the institution.

Training, Experience, and Professional Development of Education Staff

- Require certification or formal endorsement of all vocational teachers hired in the future.

- Increase resources for and access to professional development for vocational education teachers.

- Encourage staff development in the area of teaching strategies for adults.

Intake and Assessment Procedures

- Specify basic skills requirements for each vocational program offered in competency terms, rather than GED completion, and develop standardized methods for assessing these requirements.

- Develop strategies to identify presence of learning disabilities among individuals being placed within the system.

- Encourage development and use of individual education plans for each inmate participating in vocational education.

Program Curricula

- Make active use of statewide curriculum committees for each of the vocational areas offered.

- Work toward statewide, competency-based curricula, which specify explicit minimal performances in all vocational programs.

- Align the curricula in each of the vocational programs with the Michigan Career Prep system and current labor market projections.

- Require all vocational education curricula to be certified by an appropriate educational agency external to the Department of Corrections.

Instructional Delivery System

- Update instructional technology in all vocational areas, with priority on those areas where up-to-date technology is critical to the development of marketable skills.

- Develop a common set of instructional materials and resources, such as texts, videos, CDs, software, and cassette tapes, from which vocational teachers can select for use in their respective programs.

- Insure that all vocational programs utilize a minimum of hands-on instruction within each program. The specific amount will vary from program to program and should be determined by teachers within these given areas.

Assessment and Follow-up

- Develop uniform standards, which reflect both theory and performance, for measuring and certifying satisfactory completion of vocational programs.

- Develop and implement processes, based on available national models, for following former inmates in terms of their employability and retention in employment.

Discussion of Recommendations by Best Practices

Statewide Leadership, Policy, and Direction

- Develop structures and processes to insure stability of statewide leadership related to vocational education.
- Revise and update 1995 Education Plan.
- Clarify roles of education staff in central office.
- Clarify lines of communication between education staff in the central office and facility staff.
- Reduce disparity in funding and other resources among different facilities with similar programs.
- Insure that similar vocational programs all use the same program title.
- Increase the allowable number of vocational programs that inmates can complete to at least two, with particular emphasis on those nearing their release dates.

- Develop specific policies and procedures to significantly reduce the effect of transfer of inmates enrolled in vocational programs.

Several findings suggest the need for a stronger leadership presence by the Central Office within vocational education. Facility staff and central office staff share the perception that consistency and continuity within vocational education has been hampered by turnover within the Department. This issue affects not only continuity of programming but also the effectiveness of communication between central office and facility staff. Development of the 1995 Education Action Plan represents an attempt to address some of these problems. The overall effect of this document, however, on improving continuity, consistency, and communication in vocational education appears fairly modest.

We recommend that priority be given to reviewing and revising the Department's 1995 Education Action Plan. This revision process should focus on identifying and describing a distinct philosophical perspective on vocational education; specify state-wide policies relevant to fostering continuity and consistency of vocational education practice; reflect the cutting edge of research and theory in the practice of corrections vocational education; and specify a comprehensive and consistent policy for pre-release programs.

An explicit philosophical perspective is a basis for developing policy and making specific curricular decisions that affect statewide programs. This document should clearly specify why the Michigan Department of Corrections is in the business of education and, in particular, vocational education. It should also provide an overall sense of the program's goals with respect to vocational education and the activities intended to address those goals.

The document should specify statewide policies to insure more effective communication among facilities regarding educational matters of their inmates, and communication between the individual facilities and central office. In addition, these policies should provide guidelines for developing consistency in vocational program titles and consistency in allocating resources to the various facilities. Designated program names should reflect state-level career and technology paths described earlier in Chapter Two consistent with the Michigan Career Prep System. This revision could alleviate some of the issues regarding transfer of inmates. Specifically, it would allow an inmate who experiences transfer to continue his or her vocational pursuit at the next facility such that progress through the curriculum would not be disrupted.

We recommend that the Department develop specific policies to alleviate the impact of inmate transfers on vocational programming and completion. The impact of transfers was reported as an obstacle or challenge for facilities, particularly when inmates were enrolled in educational and vocational classes. Many of the instructors and administrators interviewed reported that transfer was an impediment to completion, while others reported that transfer was not a problem because they requested that those inmates enrolled in classes be held until they completed the course.

While administrators differed in their views on how to best alleviate the problem of transfer, many thought inmates enrolled in educational or vocational programs should not experience transfer. A few administrators proposed establishing regional academic and vocational centers as a method to curtail the impact of transfer. Administrators in the northern part of Michigan (Upper Peninsula) suggested that within that region similar security level prisons should not offer the same educational and vocational programs. Instead, prisons should specialize in terms of educational and vocational curriculum. This would enable inmates to transfer to lower security level facilities upon completion of a particular educational program and pursue a vocational program at yet another lower level of security. Thus, at least in the (UP) level one security prisons would offer vocational programs while higher security level programs would focus upon ABE or GED requirements. Those who proposed this particular alternative thought this would eliminate some duplication and alleviate the impact of inmate transfer.

We strongly recommend that the Education Action Plan reflect and build on an integrated approach to the curriculum in the Department's educational programs. This would involve integration of basic skills instruction more in vocational programs and work-based contexts in academic programs. The Education Action Plan should also reflect the cutting edge of research and theory. Components of this practice that should receive particular attention are the use of technologically-mediated instruction, curricular areas aligned with workforce needs, and pedagogical practices that utilize work-related methods and contexts (See below for further discussion of these ideas under *Program Curricula and Instructional Delivery System).*

We recommend that the department develop a strategic plan to insure proper implementation of standardized vocational curricula across prison facilities. This comprehensive plan should consist of time-tables for completion, as well as institutional factors or challenges that may contribute to program variation. In short, a plan must be institutional-specific such that standardization is achieved.

We recommend that the Department standardize the content and processes used in pre-release programs across facilities. Throughout the site visits, considerable variation was observed relative to pre-release programs. Few facilities could offer insights through progress plotter or specific pre-release course content.

However, a review of the pre-release programs currently established at the women's facilities offer insights on how institutional pre-release programs in the men's facilities might be structured. A one-hour program covers community resources. A five-hour program spends more time on community resources and students develop a resource list for information on where to go when they leave the facility. A 19-hour program includes community resources, self-esteem, and employability skills. In addition, a 76-hour life skills program is tailored for women who have less than eight months before being released and assists students in their transition into the community. This program covers self-esteem, self-awareness, stress management, anger management, problem-solving, employability skills, resume writing and interview skills, parenting, drugs, and family and community living.

We recommend that the Department explore the possibilities of integrating "cognitive restructuring" as a conceptual foundation for all its education and counseling programs. A number of programs across the country are experiencing success with integrating this concept into their overall approach to rehabilitation and we believe that it is an idea worthy of the Department's serious attention.

Development of the Education Action Plan and pursuit of the various activities identified above should be the collaborative effort of a statewide program planning committee, consisting of representatives from central office, regional administrators, facility administrators, principals, and teachers. Student input should also be sought by this committee, when appropriate. The work of this committee should also be informed by a statewide advisory panel, consisting of similar representation plus members from the private for-profit and non-profit sectors. We would also advise that the Department employ the services of a facilitator skilled in leading an organization through this planning process.

Interfacility Cooperation and Communication

- Improve process for communicating information about inmates enrolled in vocational programs transferring from one facility to another.
- Develop a statewide advisory committee for vocational education, composed of representatives from the Department of Education, Chamber of Commerce or Jobs Commission, community colleges, higher education, central office and facility administrators, principals, and vocational teachers from each program.

Effective functioning of a statewide system of vocational education depends on policies and processes in place to insure effective and efficient flow of information regarding student inmates among the participating facilities. It also depends on consistency of practice across programs at these different facilities and continuity of learning experiences from one site to the next. For these reasons administrators and teachers at facilities housing vocational programs need to be in constant and regular contact. Furthermore, they need to be following similar methods and procedures for communicating educationally relevant information on inmates transferring from one facility to the next.

The findings suggest considerable variability in how well the system as a whole is working in this area. Some principals and teachers indicated they are receiving information on transferred inmates in a reasonably timely manner. Others, however, indicated extensive problems in getting information from the transferring institution within a time period useful for making placement decisions.

Communication between facilities would enable various strategies to first be identified and from that information, a best practices approach could contribute to standardization that more likely insures higher quality or proven procedures are considered for implementation. Thus, in order for educational and vocational programs to become more efficient and effective, communication between programs and facilities must be perceived as a desired goal.

We recommend that the Department develop and implement a statewide or regional advisory panel or committee to effectively address and manage these problems of communication. While this committee would also have other responsibilities (addressed in other portions of this discussion), their principal focus here would be on developing and assuring effective means of communicating information about student inmates among facilities. This committee should consist of representatives from central office and facility administrators, principals, and vocational teachers from each program, as well as the Department of Education, Chamber of Commerce or Jobs Commission, community colleges and higher education.

Partnerships with Local Education Agencies and Employers

- Encourage development of advisory committees at regional levels, consisting of individuals from local Workforce Development Boards, area community colleges, regional and facility administrators, principals, and vocational teachers from each program.
- Explore formal certification of vocational curricula by local community colleges or skill centers associated with the ISDs.

Education is increasingly becoming a collaborative endeavor, not only within the educational institution itself but also with other agencies and institutions within the community. This is particularly important within vocational education and work-related training programs. These partnerships provide a number of important services for the educational institution involved. Most critical, however, are the resources of knowledge and experience they can bring to bear on curricular matters within a given program.

We recommend that the Department actively foster working partnerships among its vocational programs and employers and educational agencies. Interviews with administrators and instructional staff indicated that there should be a stronger connection between the correctional facility and the "outside world" in order to strengthen the image of the prisoner and the educational programs provided by corrections. Vocational instructors reported that employer involvement in their programs was a positive reinforcer for inmates wanting to serve the community, and at the same time, the community became better acquainted with the various educational programs inside the facilities. Examples such as building cabinets for the local Habitat for Humanity project, building contractors speaking to the classes, cleaning vendors demonstrating their products, flowers grown at the facility and donated to community agencies, helped to create job leads for student-inmates upon release.

These partnerships would also be a valuable resource for updating the curriculum. Their knowledge and experience helps determine what should be taught within a given curriculum and helps to insure quality within these vocational programs. The economy, job opportunities, and opportunities for continuing education and job training are all aspects of the context of these programs that can be addressed through such partnerships.

Community members of the partnership can help insure alignment of the vocational programs with labor market needs and trends. Effective partnerships would also provide a liaison for assisting inmates in providing service to others through agencies that would benefit from their skills and products. The recent introduction of computer repair at the Ryan Correctional Facility is just such an example.

We recommend that the Department employ working partnerships to pursue certification of its vocational programs. Educational institutions within the community, such as community colleges and the skills centers within Intermediate School Districts, could assist in developing strategies for program certification and implementation. The validity of prison programs is significantly increased through certification. Several states and programs nationally, including those in Wisconsin, work within this kind of framework.

The issue of transfer also brought up the need for a more standardized educational and vocational curriculum. In particular, administrators articulated a need for inmates who experience transfer while enrolled in an educational or vocational program to "be able to pick-up where they left from." Standardization or uniformity of the curriculum was also relevant to certification of vocational programs. Administrators believed that officially certified programs would enhance an inmate's opportunity for employment upon release. Many administrators believe that programs varied across facilities and suggested a certification process might relieve variation and add validation.

Facility Leadership and Policies Affecting Educational Programs

- Develop orientation booklets for academic and vocational programs available at each site, modeled after those used at Fox Lake Correctional Facility and other sites.
- Develop processes and procedures for continuous program improvement and implement these processes for each of the vocational programs being offered within the institution.

Effective practice in vocational programs reflects a clear sense of what the programs should be about, and agreement regarding this vision among facility leaders. Furthermore, processes are in place for gathering information on how well the programs are manifesting this overall vision and quality.

For the most part, we observed general agreement among facility administrative staff regarding goals, objectives, and processes for vocational education. What was not apparent in most facilities was an explicit process for determining how well the programs were actually adhering to this overall vision and the extent to which they were addressing the goals identified for them.

We recommend that the Department encourage each vocational program to develop and adopt an orientation booklet for teachers and students. This booklet could provide a basis for developing a common understanding of goals, objectives, methods, procedures, and other information relevant to successful implementation of a given vocational area. Fox Lake Correctional Facility in Wisconsin offers a model for the development of such booklets. We encourage the Department to closely review their orientation materials and procedures.

We recommend that each facility develop and adopt a process of continuous program improvement appropriate for and realistic to their context. This process would systematically gather information on such things as enrollment trends and completion rates, student progress and satisfaction, perceived needs and so forth. This process would serve to better inform decisions regarding budget and program changes or revisions.

Training, Experience, and Professional Development of Education Staff

- Require certification or formal endorsement of all vocational teachers hired in the future.
- Increase resources for and access to professional development for vocational education teachers.
- Encourage staff development in area of teaching strategies for adults.

This study identified several issues related to this dimension of practice. First, many of the principals and teachers working with corrections vocational programs have been with the system for many years and are nearing retirement. In the near future, there will be a need for many additional program leaders and instructors. The Department needs to give careful consideration to the qualifications and credentials of the staff it will be needing to hire.

We recommend that the Department require certification or formal endorsement of all vocational teachers within their respective areas. Such a procedure will help increase the likelihood that the Department is hiring individuals with knowledge and skill in both subject matter and pedagogy. Principals should be required to receive training in and be certified by an educational leadership program offered by an institution of higher education.

There is also considerable variation in the level of participation by vocational teachers in professional development. Instructors are required to spend 20 hours of professional development on their subject matter content and 20 hours on MDOC policies and/or safety issues. There is considerable variation, however, in how that time is accounted for and actually used in professional development. Many teachers we spoke to admitted to relatively little involvement in any kind of professional development activity over the last year.

We strongly recommend that the Department increase the vocational teachers' resources for and access to professional development. The need for ongoing, continuous professional development among vocational educators cannot be overemphasized. This need is critical, as the new career prep system components are implemented, one of which is school improvement. Vocational teachers will be expected to keep pace with the rapidly changing technology in their subject matter as well as in the teaching profession. They will need new and expanded knowledge of assessment, the curriculum framework that Michigan has implemented, workforce preparation processes, attributes of the learner, work-based experience, as well as philosophical and sociological foundations of vocational education as it exists today. These increased expectations can be provided through incentives to participate in professional development activities.

A statewide policy on professional development for instructors would alleviate the influence brought about by local administrators as well as affect the quality of the programs at the local level providing up-to-date information about conferences, workshops, etc., and achieving consistency among facilities. We recommend that support for professional development for all instructors be significantly enhanced and emphasized at the facility and state levels. These activities should include formal professional development opportunities and networking opportunities with other instructors both within and outside their own facility. Distance learning technologies should be considered for these purposes.

We recommend that the central office develop a calendar of professional development events so instructors and principals have ample time for registering and planning. State leadership could identify professional development workshops, conferences, courses offered by Michigan Department of Education, Intermediate School Districts, and other agencies that offer topics to enhance teaching and learning of adults, workplace knowledge, contextual learning, and use of technology in the classroom. Vocational educators and administrators should be strongly encouraged to attend meetings or conferences with adult and developmental education instructors in community colleges to learn new ways of contextualizing curriculum.

A review of the literature documents that instructional processes should reflect knowledge of and skill in working with adult learners and should attempt to accommodate specific learning styles and disabilities that individuals bring to the programs. Sufficient professional development opportunities would allow for this kind of experience and assist instructors in making appropriate use of technologically-mediated approaches, whenever possible, to help acquaint and familiarize inmates with how technology is used within the workplace.

Incentives should be made available to teachers to develop an effective program characterized by up-to-date curriculum which would stress state-of-the-art competencies, texts and equipment, sufficient resources and equipment to address the learning needs of the inmates. Knowledge of the types of counseling and support services to align with the overall vocational goals of the individual would be beneficial in training educational staff.

Intake and Assessment Procedures

- Specify basic skills requirements for each vocational program offered in competency terms, rather than GED completion, and develop standardized methods for assessing these requirements.
- Develop strategies to identify presence of learning disabilities among individuals being placed within the system.
- Encourage development and use of individual education plans for each inmate participating in vocational education.

The assessment procedures currently being used are providing important information for vocational educators to use within their programs. Yet, there are several ways in which the assessment process could be improved to better meet the needs of the student inmates.

We recommend that minimal academic requirements be established for all vocational programs and that these requirements be specified in terms of competence level (e.g. grade level) rather than completion of the GED. Academic requirements for participating in vocational education programs varied considerably across the sites visited. In most programs, the GED is a requirement for enrolling in vocational classes in one institution, but it is not a requirement at several sites. In addition, many vocational education programs stipulated the student demonstrate a minimal grade level of basic skills in reading or math. But this requirement varied within a given program area across sites. These requirements should be appropriate to and realistic for the training the student wishes to undertake.

We recommend that intake and assessment procedures include obtaining and documenting information on incoming inmates' vocational interests or job goals. Whenever possible, placement decisions should be guided by the student-inmates' interests and job goals rather than what is available at that time, size of waiting lists, and security needs. These goals should be aligned with the career development component of the Michigan Career Prep system.

We recommend that intake assessment also seek to determine the presence of learning disabilities among the incoming student-inmates. While we recognize that assessment of learning disabilities is not easy, significant work has been proceeding at a national level in this area. The Department should work with the State Literacy Resource Center at Central Michigan University to identify staff development programs in this area for assessing and documenting learning disabilities, and for adapting curriculum and instruction to these disabilities.

We recommend the Department develop and implement standardized procedures for using individual education plans for students in vocational education. The information appropriate to the students' education and career goals should be recorded on and form the basis for individual education plans. These plans should accompany the student throughout the system and could enhance the level of articulation and continuity of a given person's experiences within a program across facilities.

Program Curricula

- Make active use of statewide curriculum committees for each of the vocational areas offered.
- Work toward statewide, competency-based curricula, which specify explicit minimal performances in all vocational programs.
- Align the curricula in each of the vocational programs with the Michigan Career Prep system and current labor market projections.
- Require all vocational education curricula to be certified by an appropriate educational agency external to the Department of Corrections.

While administrators agreed that first priority in the prison was security, they also recognized the need to include and expand vocational offerings to inmates. Many suggested that one objective of their program was to provide inmates with marketable skills; and they did not want to utilize security as the reason for not introducing new marketable vocational courses into the prisons. There was a fundamental belief that lack of marketable skills was a contributing factor to incarceration. Administrators reported that it was the responsibility of the state to enhance the educational background of inmates in an effort to decrease the likelihood of recidivism.

We strongly recommend that the Department actively support the development, maintenance, and work of statewide curriculum committees within the respective vocational areas. The Department of Corrections has taken important steps recently to help build a coherent and consistent approach to vocational education. These steps involved the formation of curriculum committees charged with developing curriculum with specific vocational areas and representing these curricula on progress plotters. The findings suggest that much remains to be done if the Department is to achieve its goal of a more consistent, coherent, and articulated vocational program throughout the state. While curriculum committees have been fairly active in some areas, in others there appears to be relatively little recent activity.

Because of the rapidly changing nature of work and the needs of the workforce, these committees need to be made permanent. Their work should be viewed as continuous and on-going. Steps should be taken to make these committees a permanent structure within the Department's educational organization. Specific guidelines should be created to inform the structure and work of these committees. The work of these committees should be also be informed by the statewide and regional advisory panels discussed above. Each committee should establish relationships with local area employers and educational agencies so they may use them for input into the content and skills that should make up their respective curricular areas.

We strongly recommend that the Department facilitate the development of a more standardized educational and vocational curriculum. Administrators articulated a need for inmates who experience transfer while enrolled in an educational or vocational program to "be able to pick-up where they left from." Many administrators reported that currently upon transfer, an inmate has to participate in a program at another facility that may be somewhat different than the program initially enrolled. They suggested a need for a more standardized educational and vocational curriculum accompanied with regular meetings among instructors to bring it to fruition. Administrators indicated that standardization and tracking was underway in the educational programs given the recent implementation of the INVEST Learning Program. However, this was yet to be attempted in the vocational courses.

The curriculum committees should be directed to develop competency-based curricula, which specify the skills, performances, and levels of knowledge expected of those students completing the program. These specific competency statements should replace textbook chapter titles and other vague wording that now constitutes some of the progress plotters. Moreover, consistent measures or procedures for student evaluation should be standardized, as well, thus charging the committee with establishing the grading criteria.

The committees should be directed to develop and identify a core curriculum for each of their respective areas. The core curriculum, espoused by some teachers, may alleviate the completion problem students face when transferring to another facility and provide for increased articulation of individual programs across facilities.

The committees should strive to increase the contextual learning within their specific programs. Infusing technology into the curriculum can promote contextualized learning opportunities and consideration should be given to increasing the technology component of most programs. The Department should explore how work-based components of the vocational programs (as in career prep system) can be increased. Work-based experiences could allow inmates to get jobs in prison after taking the class. Examples of these include tutors in the ABE/GED, office filing, library reception area, menu designs, newsletters, orientation booklets for school.

Specific suggestions surfaced with regard to three programs; auto, business technology, and building trades. The auto program is an expensive program. We suggest the Department offer certification to those completing. Teachers should be encouraged to visit various facilities and try to get help from them setting up a program.

Business Education policies that allow students to get a job after six months may be contributing to the dropout rate and low completion rates of this program. The business education program does not seem to be well-standardized across facilities. Without a standardized business education technology program in state, students who transfer may not be able to complete these programs or may experience inordinate delays.

Building Trades is another area where we observed little articulation or consistency across facilities. Transfer also seems to significantly affect inmates in this area as well. This is potentially a highly marketable skill area for former inmates. We would strongly encourage job placement connection by working with the community.

We strongly recommend that the Department pursue formal certification of vocational curriculum by an external agency with credibility in the respective fields offered through the Department. These agencies might include the Michigan Department of Education, the local ISD, or a local community college. Administrators believed that officially certified programs would enhance an inmate's opportunity for employment upon release. Administrators interviewed suggested that programs varied across facilities. A certification process might relieve variation and add validation.

Instructional Delivery System

- Update instructional technology in all vocational areas, with priority on those areas where up-to-date technology is critical to the development of marketable skills.
- Develop a common set of instructional materials and resources, such as texts, videos, CDs, software, and cassette tapes, from which vocational teachers can select for use in their respective programs.
- Insure that all vocational programs utilize a minimum of hands-on instruction within each program. The specific amount will vary from program to program and should be determined by teachers within these given areas.

Effective instruction in vocational education depends on skilled and knowledgeable teachers, appropriate and current technology, and opportunities for students to engage in contextualized, work-related experiences. Instructors need to stay current in the latest research and theory related to adult learning and up to date in the technology consistent with their fields.

Much can be said regarding the strengths of the current instructional staff who work in the Department's vocational education programs. The instruction of students enrolled in these programs, however, would be significantly improved by improving technology used in these programs and by incorporating the principles of contextual learning.

We strongly recommend that the Department give high priority to updating the instructional technology used in all vocational programs and developing a consistent and up-to-date set of instructional materials and resources for teachers to use in these programs. With only a couple exceptions, the technology used in most programs is outdated and, in some cases, not even functional. While the INVEST software program was present in most facilities visited, it was not being used for instructional purposes in the vocational programs. Many of the teachers were not even aware of the program or its potentials for being integrated into their instruction.

In addition, the technology, equipment, and materials that are used in vocational programs are not consistent across facilities, further restricting a student's ability, if he is transferred (largely a problem among the male prisons) to continue progress in the vocational area selected. We suggest that distance education formats be considered as a means of increasing access to more inmates (i.e. offer the ABE/GED courses on-line through the Michigan Virtual University). Computers and software should be upgraded to be able to run current state-of-the-art instructional and managerial systems. Classrooms should be adequately equipped with up-to-date materials and technology that supports agreed upon curriculum.

Out-dated, obsolete, and nonfunctional technology severely constrains the teachers' abilities to help foster marketable skills among their students. Numerous examples of technologically-mediated instruction are evident in programs across the country and in descriptions published in the literature, of current, state-of-the-art programs in many of the vocational areas the Department is currently supporting.

Future planning should focus on integrating technology into the instructional delivery systems of these programs. Teachers should play a prominent and active role in determining what technology should be used and how it will be incorporated in their classrooms or course content. To insure a coherent and consistent set of practices, the state or regional advisory planning groups should be used to help plan and implement this technology across the state.

The Department should explore how the use of distance education could be effectively used in parts or all of some vocational programs. Implementation plans for this new technology also needs to include adequate provisions for staff development.

We strongly recommend the Department foster more contextualized, work-based learning experiences within their vocational programs. Students' learning experiences in the vocational programs need to be more contextualized and grounded in real-life, work-related situations. We were especially concerned by the comments of one staff person who remarked that an inmate could be certified in a given area without any real hands-on experience in the area being studied. While this comment certainly does not characterize all vocational programs in the Department, it does point to a more general need.

Marketable skills in specific vocational areas will only be effectively developed if the students' learning experiences are grounded in real-work situations. Again, numerous examples of how this can be effectively accomplished within prisons exist throughout the country. The vocational programs at Fox Lake and Oshkosh Correctional Facilities in Wisconsin are an outstanding example of integrating work-based learning experiences into their programs.

Adding a work-based component would align the curriculum with the Michigan Career Prep System. Through careful planning, alternative approaches to work in the facilities can be enhanced through work-based learning components. For example, the business technology class can provide experience for students to work in the facility in database management, records maintenance, library, proctor ABE/GED classes, or operate a small retail store.

Assessment and Follow-up

- Develop uniform standards, which reflect both theory and performance, for measuring and certifying satisfactory completion of vocational programs.
- Develop and implement processes, based on available national models, for following former inmates in terms of their employability and retention in employment.

Assessment and follow-up of students participating in vocational programs are critical elements in developing marketable skills among the Department's student-inmate population. Teachers in these programs need to be documenting progress in similar knowledge and skills areas, and they need to be using similar standards and methods for assessing a student's progress and completion.

Once a student leaves the prison system, methods should be used to determine if he or she obtains gainful employment or continues his or her education, in what area, and how well they are doing. This information needs to be fed back to central office personnel, curriculum committees, and teachers for use in improving the effectiveness of their programs.

We recommend that the Department work for continuity and consistency in the standards and methods used for assessing and certifying student competence and completion. Assessment and documentation of student progress within any given program area vary across the state. Because there is relatively little consistency in the curricula of these programs, assessment of progress in these areas is also going to reflect this lack of consistency and continuity. Thus, in order to improve the assessment of student progress, improvements need to be made in enhancing the consistency, continuity, and coherence of the curricula within the specific programs offered through the Department (See the recommendations under *Program Curricula*).

We recommend that the Department encourage more competency-based or performance-based forms of assessment. Several teachers, particularly in the Custodial Maintenance area, now employ real or simulated work situations to assess a student's ability to perform specific skills within the curriculum. Many teachers document student progress by checking off work completed in a text, assignments, or grades obtained on paper-and-pencil tests. While these may be important measures of a student's background knowledge relevant to the particular occupational skills of interest, they do not adequately assess a student's competence to perform the skills necessary to be effective on the job. A college or accrediting agency could award certificates to program completers.

We strongly recommend that the Department develop and implement processes for obtaining information on former inmates who have participated in vocational programs. Wardens, teachers, principals and central office staff frequently expressed concern and often-times frustration regarding the lack of information or follow-up with inmates who leave the prison system. Department personnel could not offer insights as to whether an inmate who successfully completed a vocational program found employment within the vocation for which they were trained.

Lack of knowledge regarding the success of inmates, once they leave the prison, in obtaining employment or continuing their education is a significant factor that limits the Department's ability to plan and improve vocational programs. The tentativeness observed regarding vocational program planning, implementation, and staffing could be alleviated with knowledge about inmates who experience successful societal re-integration.

This may be achieved through the commission of a specific follow-up or research study. The parole division and information from parole agents may offer some immediate insights given that many inmates who are released experience parole. Models and examples of follow-up are available in other programs in the country and described in the literature.

However, a follow-up with inmates on parole will not yield a complete picture. A cross-sectional or preferably longitudinal study of inmates released from prison offers the best opportunity to measure and determine the success of Michigan's prison vocational program

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APPENDICES

Appendix A

List of the Site Visits

List of the Site Visits
(September 1998 – March 1999)

City	Facilities
Adrian	Temporary Facility – ATF Gus Harrison Correctional Facility – ARF
Muskegon	Muskegon Correctional Facility
Freeland	Saginaw Correctional Facility
Kincheloe	Chippewa Temporary Correctional Facility – KTF Chippewa Correctional Facility – URF (Toured MSI) Kinross Correctional Facility – KCF Hiawatha Correctional Facility – HTF (MSI – Laundry and Industrial Sewing)
Ionia	Ionia Temporary Facility – ICF
Carson City	Carson City Facility – DRF Carson City Temporary Facility – OTF
Coldwater	Crane Women's Facility
Plymouth	Scott Correctional Facility
Jackson	Southern Michigan Correctional Facility Egeler Correctional Facility
Fox Lake, Wisconsin	Fox Lake Correctional Facility
Oshkosh, Wisconsin	Oshkosh Correctional Facility

Appendix B

Interview Protocols

DEPARTMENT OF CORRECTIONS
Corrections Education Project

Administrator Interview Protocol

INSTRUCTIONS: We are talking with you today to get a sense of your role in the educational program here at ________________. . All the information you provide will be kept confidential and anonymous. We will make public only summaries of information obtained from these interviews and your name will never appear in print with what you say here.

We would like to tape-record the interview, if you don't mind, so that I can concentrate more on what you are saying rather than trying to write it down. We will transcribe these interviews but the tapes and transcriptions will be available only to our project staff and will be kept in a secure location within our Center.

Do you have any questions before we begin?

1. **How did you come to be in your present position here at _______________?**

- How long have you worked in this position?

- What did you do before this position?

- What is your educational background?

- How did you get interested in work within the corrections field?

2. **Can you describe for me the nature of the educational programs offered here at _____________?**

- What different programs are offered?

- What are the goals of these different programs?

- Number of teachers

- Number of individuals participating in the programs?

- How do individuals sign up for these programs? How do they end up in them?

- History of the programs: how they came to be here? Why these and not some others, etc

3. **In what ways are you or your office involved in the educational program here?**

    - What role or responsibility do you have for the curriculum or programs that are offered and the individuals who take these courses or program?

    - What do you do in your present position that relates to these programs, the teachers that teach them, or the individuals that are enrolled in them?

    - What influences your role in the educational program here?

4. **What other aspects of the institution besides the educational program are you involved in and in what ways?**

    - How do these other responsibilities influence your work with the educational programs?

5. **What is your sense of what are the individuals are like who enroll in the educational programs here?**

   - Their skill levels? Educational achievement? Abilities? Needs? Interests? Etc.

6. **What is your overall sense of the educational program here at ____________?**

   - How does it contribute to the overall mission of the Institution? Of the area within the institution for which you are responsible?

   - What do you hope your program is achieving?

   - What measures or indicators do you use to determine the effectiveness of your program?

   - What the program's strengths? Weaknesses?

7. **What do you consider to be your institutions' needs right now for its educational programs?**

   - Areas for improvement?

   - What changes would you like to see made in the educational program?

   - How will these changes help?

   - Are there barriers preventing the institution from moving forward with these changes? What needs to occur to make these changes happen?

8. **What are some of the biggest or most important challenges you face in your current position with respect to the education programs here?**

We covered a lot of ground today. Do you have anything else you wanted to say or add that I haven't touched on in our talk?

Thanks so much for taking the time to talk with me.

DEPARTMENT OF CORRECTIONS
Study of Vocational Education

Interview Protocol for Central Office Personnel

[*Briefly explain the nature of the project, the purpose of this interview, and that the results will be kept confidential and anonymous*]

1. **Describe your role within the Department with respect to educational programming within the prisons.**
   - What are your responsible for relative to educational programming?
   - How does your position relate to others in the department that may have responsibility for educational programs? Who answers to whom?
   - What role do you have in relating to or interacting with individuals at the facilities in terms of educational matters?
   - What influence do you have in terms of educational decisions and issues at the local level? In what ways do you help shape or determine what happens within individual programs?
   - Do personnel at the local level call you or contact you directly? If so, typically about what?

2. **Based on your understanding of the educational programs in the prisons, what do you consider to be the most significant factors that determine, shape, or influence the nature of these programs?**
   - What things seem to determine what these programs will look like, their overall quality, what they have to offer, etc
   - What factors at the state level seem to make a significant difference in the overall nature of programs at the local level?
   - What factors at the local level seem to make a significant difference in the overall nature of the programs at the local level?

3. **What do you believe should be the overall goals and purposes of educational programming within the prisons? Vocational educational programs in particular?**

4. **Describe for me your assessment of the overall quality of the current vocational programs within the correctional facilities?**

   - Strengths? Areas for improvement?
   - Obstacles or challenges to change?

5. **Specific issues that have come up in the study that we want to ask about?**

   - the progress plotters - how they got started, what is done with them when they reach MDOC, and what they do to keep them current
   - curriculum committees: how they were selected, and what future plans they have for them.
   - what about placement or follow-up - do they have any plans for communicating to employers, how do they follow-up with employers - was there ever any follow-up - I am
   - what plans for new programs do they have for the different facilities as you suggested.
   - transfer

6. **What are your hopes and expectations for this project?**

   - What are you expecting from the project?
   - How do you see it making a difference?
   - What responsibility will you have for the project report?

7. **Anything else you want to add?**

Thanks you for time today.

DEPARTMENT OF CORRECTIONS
Corrections Education Project

Teacher Interview Protocol

INSTRUCTIONS: We are talking with you today as part of a statewide project here to better understand correctional educational programs within Michigan. We are not evaluating your program or your teaching. Rather, we are seeking to understand the nature of these programs and the kinds of things that shape and influence them.

We would like to talk with you today about your experiences as a teacher working in the educational programs here at _______________.

All the information you provide will be kept confidential and anonymous. We will make public only summaries of information obtained from these interviews and your name will never appear in print with what you say here.

We would like to tape-record the interview, if you don't mind, so that I can concentrate more on what you are saying rather than trying to write it down. We will transcribe these interviews but the tapes and transcriptions will be available only to our project staff and will be kept in a secure location within our Center.

Do you have any questions before we begin?

1. **How did you come to be in your present position here at ________________?**

- How long have you worked as a teacher here?
- How did you get involved in teaching within Corrections?
- How did you get interested in work within the corrections field?
- What did you do before this position?
- What is your educational background?

2. **What do you like about being a teacher?**

- How did you get involved in teaching [the subject matter]?
- What interests you about teaching in this area?

3. **Can you describe for me the nature of the educational programs offered here at _____________?**

- What different programs are offered?
- What are the goals of these different programs?
- Number of teachers
- Number of individuals participating in the programs?
- How do individuals sign up for these programs? How do they end up in them?
- History of the programs: how they came to be here? Why these and not some others, etc

4. **Tell me about what it is like being a teacher here.**

- As a teacher what do you do here? Describe your role as a teacher.
- What are you responsible for?
- What's expected of you?

Note to interviewer: You want to key in on certain aspects of their description and try to get them to elaborate on these aspects as much as possible. These include:

- their students;
- what they teach; how they teach;
- the general flow of an instructional session
- what materials they use; how do they decide what to use with their students;
- what changes they have made in the curriculum or their teaching over the years and why have they made these changes
- What aspects of the organization or the institution have helped or hindered their work as a teacher

5. What are the students like in your program?

- Describe a typical group of students you might have within any given term or semester.
- In what ways are they similar?
- In what ways are they different?
- Their skill levels? Educational achievement? Abilities? Needs? Interests? .
- What are their reasons for enrolling in the program?

6. How do individuals get into the program?

7. How do you know if you are succeeding as a teacher?

What do you consider to be indicators of effectiveness of your program? Of your teaching?

8. What is your overall sense of the educational program here at ____________?

- How does it contribute to the overall mission of the Institution?
- It's strengths? Weaknesses?

9. **What do you consider to be your institutions' needs right now for its educational programs?**

- Areas for improvement?

- What changes would you like to see made in the educational program?

- How will these changes help?

- Are there barriers preventing the institution from moving forward with these changes? What needs to occur to make these changes happen?

10. **What are some of the biggest or most important challenges you face in your work here as a teacher in ___________?**

We covered a lot of ground today. Do you have anything else you wanted to say or add that I haven't touched on in our talk?

Thanks so much for taking the time to talk with me.

DEPARTMENT OF CORRECTIONS
Corrections Education Project

ABE/GED Teacher
Group Interview Protocol

INSTRUCTIONS: We are talking with you today as part of a statewide project here to better understand correctional educational programs within Michigan. We are focusing specifically on vocational education programs within the state. But we are also interested in better understanding the relationship of academic programs to the vocational programs. This is why we have asked to talk with you today.

We are not evaluating your program or your teaching. Rather, we are seeking to understand the nature of these programs and the kinds of things that shape and influence them.

We would like to talk with you today about your experiences as a teacher here at

________________.

All the information you provide will be kept confidential and anonymous. We will make public only summaries of information obtained from these interviews and your name will never appear in print with what you say here.

We would like to tape-record the interview, if you don't mind, so that I can concentrate more on what you are saying rather than trying to write it down. We will transcribe these interviews but the tapes and transcriptions will be available only to our project staff and will be kept in a secure location within our Center.

Do you have any questions before we begin?

1. **Could each of you briefly describe your position here?**

- How long you have been here,
- our educational background?
- What interactions do you have with teachers in the other areas?

2. **Can you describe your curriculum or program for me?**

- Overall purposes, goals, objectives?
- Its overall structure? Times, days of the week it is offered, etc.?
- How do you determine what the curriculum should be for a student?
- How do you select materials used in the instructional program?
- Who all participates in the planning and shaping of your program?
- History of the programs: how they came to be here?

3. **What are your students like?**

- Educational level/achievement?
- Age, other variables
- Their skill levels? Educational achievement? Abilities? Needs? Interests? .
- Number of individuals participating in the programs?
- How do individuals sign up for these programs? How do they end up in them?
- What are their reasons for enrolling in the program?

4. **Describe a typical instructional session**

- What do you do?
- What do your students do?
- What role does technology play in your teaching?
- CAI? Others?

5. **What changes they have made in the curriculum or their teaching over the years**

- Why have they made these changes
- What aspects of the institution have helped or hindered your work as a teacher

6. **How do you know if you are being effective in your teaching?**

- What do you consider to be indicators of effectiveness of your program? Of your teaching?

7. **What is your overall sense of the educational program here at ____________?**

- How does it contribute to the overall mission of the Institution?
- It's strengths? Weaknesses?

8. **What do you consider to be your institutions' needs right now for its educational programs?**

- Areas for improvement?
- What changes would you like to see made in the educational program?
- How will these changes help?

Are there barriers preventing the institution from moving forward with these changes? What needs to occur to make these changes happen?

9. **What are some of the biggest or most important challenges you face in your work here as a teacher in ___________?**

We covered a lot of ground today. Do you have anything else you wanted to say or add that I haven't touched on in our talk?

Thanks so much for taking the time to talk with me.

Appendix C

Correction Study – Number of Interviews

Correction Study – Number of Interviews

Principal	10
Warden	8
Deputy Warden	6
Asst. Deputy Warden	10
Classifications Director	6
Employment Counselor	2
Regional Director	1
Total	43
Instructors	
ABE/GED	8
Auto Body	1
Auto Mechanics	2
Building Trades	4
Business Technology	5
Custodial Maintenance	7
Optical Technology	1
Electronics	1
Food Services	6
Horticulture	6
Pre-Release	1
Printing/Graphics	3
Welding	1
Instructor Aid	1
Total	47
Students	4
Wisconsin	4

Phone Interview

- Florida
- MDOC Staff

Toured MSI – Laundry and Industrial Sewing

Appendix D

Classroom Observation Notes

Date:
Name:
Location:
Subject:

Classroom Observation Notes

In this observation we are looking for: a description of the program with reference to such characteristics as personnel, procedures, location, facilities, setting, activities, objectives, nature of participation, and potential side effects.

Time of Day: ____________________ Length of Class Period ________________

Brief Description of Classroom Setting - size, layout, location, condition, etc.

Describe location of classroom from central sources of instruction and support? Is there a resource reading room nearby, other classrooms, other teachers, etc?

What is going on right now? (Teacher behavior, student behavior; nature of interactions, etc.)

Seating pattern - involve movable seating for learning activities - physical movement or group interaction? Fixed rows?

Describe instructor's method of delivery:

Where is the instructor's seat located? Is the instructor lecturing from the seat?

Does instructor move around and work with students individually, in groups, how?

Use of audiovisuals? What kinds? Where used in class time? Does instructor offer explanation for use of the audiovisual?

Does there seem to be a structure to the instructional session; e.g., activities seem planned or sequenced?

Does instruction appear to be individualized? For ex: Are students using kits, modules, computers, booklets, instruction sheets, or other? Please describe:

Are there distractions that lead to reduced attention span or unpleasant learning conditions that could inhibit learning? Explain:

Additional Observations and Comments:

Appendix E

Curriculum Materials - Review

Date:
Name:
Location:

Curriculum Materials - Review

Title: ____

Description: ____

____

Year: ________

Source: ____________________________________

How were these materials selected for this class? Explain if possible:

Supplementary Materials available? Yes ________ No __________
Audio Visual
Computer
Other

Check off and elaborate, if possible, if you find the following included in the class materials:

______Course Outline

______Course Objectives

______Contextual Lessons - or Units

______Requirements for completing the course?

______Life Skills incorporated in the text

______Employability Skills Included

______Competency Records (Progress Plotters)

The progress chart serves as an aid to provide an additional record of students' capability in a classroom/laboratory situation. A second reason is to enable teachers to have different students working on various activities and still remember what each has completed. What is done with these in this setting? (Comment on other side)

______Relate to Career Paths/Clusters

If so, which ones?

______Assessment Methods
Explain:

______No evidence of bias or stereotyping

______Safety Instructions

______Arrangement of laboratory settings

______Laboratory Management Materials

______Equipment

______Tool and equipment inventories

______Machine Use Arrangements

______Maintenance Program Information

Additional Comments:

Appendix F

Michigan Correctional Education Programs

MICHIGAN CORRECTIONAL EDUCATION PROGRAMS

PROGRAM VARIABLES				
Waiting list / HT get in				
Currency (Relevant to available jobs)				
Completion rate. Articulation with other programs, within institution and across the state				
Consistency across facilities				
Impact of transfer				
Significant challenges Barriers				
CURRICULUM STRUCTURE				
Content; progress plotters, etc.				
Materials/ resources				
CAI -(Computer Assisted Instruction) Is it available? current? working?				

J=Jackson; M=Muskegon; C=Coldwater; S=Scott; I=Ionia; CC=Carson City; Sa=Saginaw; K=Kinross

J=Jackson; M=Muskegon; C=Coldwater; S=Scott; I=Ionia; CC=Carson City; Sa=Saginaw; K=Kinross

Delivery Integration with other classes, and within the course, Hands-on experience				
Student Assessment what is done to certify student progress and completion Follow-up - any and how				
Curriculum Development how is it decided?				
Expansion/ modification of program/ curriculum				
STUDENTS				
Students admission requirements - level required				
Characteristics of student population - how does it influence the kinds of programs offered				
TEACHERS				
Professional development opportunities				
Qualification of instructors —				
"teacher formation"				

ENVIRONMENT				
Physical facilities				
Relationship to community?				
Relational issues				
Relationship of custody to students' educational success or completion				
Funding - evidence of hindering or enhancing				

J=Jackson; M=Muskegon; C=Coldwater; S=Scott; I=Ionia; CC=Carson City; Sa=Saginaw; K=Kinross

Appendix G

Labor Market Information

Occupations With the Most Openings

Requiring Work Experience or On-the-Job Training

Listed below are the 25 occupations with the largest number of projected openings during the 1996-2006 time period that require on-the-job training or experience. Click on an occupation to learn more about it.

Occupation	1996 Employment	Average annual job openings (due to growth and net replacements)
Cashiers	3,146,400	190,160
Salespersons, retail	4,072,300	170,080
Waiters and waitresses	1,956,800	120,470
General office clerks	3,110,700	92,340
Food preparation workers	1,253,200	87,350
First-line supervisors and managers/supervisors - sales and related workers	2,315,600	61,780
First-line supervisors and managers supervisors - clerical and administrative support workers	1,368,600	57,850
Maintenance repairers, general utility	1,362,100	52,170
Receptionists and information clerks	1,073,700	51,760
Nursing aides, orderlies, and attendants	1,312,100	51,000
Hand packers and packagers	986,100	48,480
Home health aides	494,700	44,490
Guards and watch guards	954,600	41,990
Child care workers	829,700	39,140
Bookkeeping, accounting, and auditing clerks	2,249,500	37,880
Food service and lodging managers	589,300	29,290
Cooks, restaurant	727,100	27,920
Shipping, receiving, and traffic clerks	984,800	23,450
Tellers	545,400	23,210
Counter and rental clerks	373,800	21,680
Police patrol officers	412,700	21,550
Medical assistants	224,800	21,000
Personal and home care aides	202,500	20,800
Adjustment clerks	401,300	20,710
Dining room and cafeteria attendants and bartender helpers	438,500	20,420

Source: Bureau of Labor Statistics, 1996

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Occupations That Have High Wages

Requiring Work Experience or On-the-Job Training

Listed below are the 25 occupations with the highest median hourly wages in 1996 that required on-the-job training or experience. Click on an occupation to learn more about it.

Occupation	Median wages, 1996	
	Hourly	Annual
Police and detective supervisors	$21.62	$45,000
Power distributors and dispatchers	$21.61	$44,900
Elevator installers and repairers	$21.52	$44,800
Brokers, real estate	$21.36	$44,400
Airplane dispatchers and air traffic controllers	$21.24	$44,200
Fire fighting and prevention supervisors	$20.73	$43,100
Electrical power-line installers and repairers	$18.36	$38,200
Subway and streetcar operators	$18.23	$37,900
Electric meter installers and repairers	$17.96	$37,400
Programmers, numerical tool and process control	$17.88	$37,200
Boilermakers	$17.57	$36,500
Insurance adjusters, examiners, and investigators	$17.30	$36,000
Chemical plant and system operators	$17.20	$35,800
Tool and die makers	$17.00	$35,400
Flight attendants	$16.94	$35,200
Precision instrument repairers	$16.84	$35,000
Ship engineers	$16.70	$34,700
Stationary engineers	$16.66	$34,700
Police patrol officers	$16.65	$34,600
Aircraft structure, surfaces, rigging, and systems assemblers, precision	$16.60	$34,500
Millwrights	$16.53	$34,400
Rail yard engineers, dinkey operators, and hostlers	$16.52	$34,400
Construction and building inspectors	$16.33	$34,000
Tire building machine operators	$16.28	$33,900
Electricians	$15.99	$33,300

***Note:** The annual wage is based on a 40-hour work week for 52 weeks (year).*

Occupations With Largest Employment

Requiring Work Experience or On-the-Job Training

Listed below are the 25 occupations with the largest employment in 1996 that required on-the-job training or experience. Click on an occupation to learn more about it.

Occupation	1996 Employment
Salespersons, retail	4,072,300
Cashiers	3,146,400
General office clerks	3,110,700
First-line supervisors and managers/supervisors - sales and related workers	2,315,600
Bookkeeping, accounting, and auditing clerks	2,249,500
Waiters and waitresses	1,956,800
First-line supervisors and managers supervisors - clerical and administrative support workers	1,368,600
Maintenance repairers, general utility	1,362,100
Nursing aides, orderlies, and attendants	1,312,100
Food preparation workers	1,253,200
Receptionists and information clerks	1,073,700
Hand packers and packagers	986,100
Shipping, receiving, and traffic clerks	984,800
Guards and watch guards	954,600
Child care workers	829,700
Cooks, restaurant	727,100
Typists, including word processing	652,500
Food service and lodging managers	589,300
Electricians	575,400
Tellers	545,400
Home health aides	494,700
Industrial truck and tractor operators	479,100
Sewing machine operators, garment	452,800
Painters and paperhangers, construction and maintenance	443,700
Dining room and cafeteria attendants and bartender helpers	438,500

Source: Bureau of Labor Statistics, 1996

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Fastest Growing Occupations

Requiring Work Experience or On-the-Job Training

Listed below are the 25 occupations projected to grow the fastest during the 1996-2006 time period that require on-the-job training or experience. Click on an occupation to learn more about it.

Occupation	Employment		Percent change*
	1996	2006	
Personal and home care aides	202,500	373,900	85%
Physical and corrective therapy assistants and aides	84,500	150,900	79%
Home health aides	494,700	872,900	77%
Electronic pagination system operators	30,400	52,800	74%
Medical assistants	224,800	391,200	74%
Occupational therapy assistants and aides	15,700	26,400	69%
Human services workers	177,800	276,300	55%
Amusement and recreation attendants	288,100	426,100	48%
Adjustment clerks	401,300	583,900	46%
Bill and account collectors	268,600	381,100	42%
Instructors and coaches, sports and physical training	303,100	426,600	41%
Dental assistants	201,600	278,400	38%
Ambulance drivers and attendants, except emergency medical technicians	18,400	25,100	37%
Child care workers	829,700	1,128,900	36%
Customer service representatives, utilities	151,200	206,100	36%
Flight attendants	131,800	178,100	35%
Bicycle repairers	12,800	17,000	34%
Correction officers and jailers	320,100	423,400	32%
Correspondence clerks	31,000	40,500	31%
Paving, surfacing, and tamping equipment operators	79,300	103,000	30%
Receptionists and information clerks	1,073,700	1,392,200	30%
Food service and lodging managers	589,300	756,900	29%
Technical assistants, library	78,100	99,900	28%
Ushers, lobby attendants, and ticket takers	64,200	82,400	28%
Veterinary assistants	33,000	42,300	28%

** Note: The national average percent change is between 10 and 20%.*

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Occupation Report

Occupation: Automotive body and related repairers
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Repair, repaint, and refinish automotive vehicle bodies; straighten vehicle frames; and replace damaged vehicle glass.

Wages and Trends: Automotive body and related repairers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$12.51	$26,000	$9.66 - $16.66	$20,100 - $34,700
Michigan	$14.76	$30,700	$10.40 - $19.20	$21,600 - $39,900

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	208,600	243,450	17%	8,340
Michigan	9,200	10,650	16%	360

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Automotive mechanics
State: Michigan
Typical Educational Level: Post-Secondary vocational training
Description: Adjust, repair, and overhaul automotive vehicles. May be designated according to specialties, such as Brake Repairers, Transmission Mechanics, or Front-end Mechanics. Exclude Auto Body Repairers, Bus and Truck Mechanics, Diesel Engine Specialists, and Electrical Systems Specialists.

Wages and Trends: Automotive mechanics

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$12.35	$25,700	$9.45 - $16.18	$19,700 - $33,700
Michigan	$13.43	$27,900	$10.53 - $17.76	$21,900 - $36,900

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	735,600	861,650	17%	31,550
Michigan	26,350	30,350	15%	1,080

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Small engine specialists
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Repair and maintain the operating condition of nonautomobile gasoline-powered internal combustion engines and the equipment powered by those engines. Include repairers of outboard motors, snowmobiles, lawn mowers, and chain saws. Exclude Motorcycle Repairers.

Wages and Trends: Small engine specialists

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$9.96	$20,700	$7.64 - $12.19	$15,900 - $25,400
Michigan	$10.19	$21,200	$7.99 - $12.47	$16,600 - $25,900

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	34,750	36,050	4%	1,000
Michigan	1,450	1,600	12%	50

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Bicycle repairers
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Repair and service bicycles using hand tools.

Wages and Trends: Bicycle repairers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$7.27	$15,100	$5.79 - $8.89	$12,000 - $18,500
Michigan	$6.37	$13,200	$5.35 - $8.28	$11,100 - $17,200

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	39,850	43,900	10%	1,150
Michigan	1,600	1,600	0%	30

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: General office clerks
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: Perform duties too varied and diverse to be classified in any specific office clerical occupation. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of bookkeeping, typing, stenography, office machine operation, and filing.

Wages and Trends: General office clerks

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$8.77	$18,200	$6.74 - $10.83	$14,000 - $22,500
Michigan	$8.94	$18,600	$6.83 - $10.90	$14,200 - $22,700

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	2,945,650	3,071,200	4%	82,530
Michigan	92,700	103,000	11%	3,050

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Secretaries, except legal and medical
State: Michigan
Typical Educational Level: Post-Secondary vocational training
Description: Relieve officials of clerical work and minor administrative and business details by scheduling appointments, giving information to callers, taking dictation, composing and typing routine correspondence (using typewriter or word processor), reading and routing incoming mail, filing correspondence and other records, and other assigned clerical duties.

Wages and Trends: Secretaries, except legal and medical

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$10.61	$22,100	$8.56 - $13.06	$17,800 - $27,200
Michigan	$10.46	$21,800	$8.75 - $12.99	$18,200 - $27,000

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	2,842,300	3,108,850	9%	79,180
Michigan	96,300	97,150	1%	1,770

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Electrical and electronic engineering technicians and technologists
State: Michigan
Typical Educational Level: Associate degree
Description: Apply electrical and electronic theory and related knowledge to design, build, test, repair, and modify developmental, experimental, or production electrical equipment in industrial or commercial plants for subsequent use by engineering personnel in making engineering design and evaluation decisions.

Wages and Trends: Electrical and electronic engineering technicians and technologists

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$15.39	$32,000	$11.65 - $19.29	$24,200 - $40,100
Michigan	$16.61	$34,500	$12.84 - $20.62	$26,700 - $42,900

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	314,000	348,800	11%	9,840
Michigan	7,950	10,150	28%	380

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Electronic home entertainment equipment repairers
State: Michigan
Typical Educational Level: Post-Secondary vocational training
Description: Adjust and repair radios, televisions, stereo systems, recorders, video systems, or other electronic home entertainment equipment.

Wages and Trends: Electronic home entertainment equipment repairers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$11.19	$23,300	$9.01 - $14.73	$18,700 - $30,600
Michigan	$10.47	$21,800	$9.08 - $14.51	$18,900 - $30,200

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	33,700	30,350	-10%	850
Michigan	950	800	-15%	20

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Electronics repairers, commercial and industrial equipment
State: Michigan
Typical Educational Level: Post-Secondary vocational training
Description: Repair electronic equipment such as industrial controls, telemetering and missile control systems, radar systems, transmitters, and antennae, using hand tools and testing instruments. Exclude repairers of data processing equipment and home entertainment equipment.

Wages and Trends: Electronics repairers, commercial and industrial equipment

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$15.22	$31,700	$12.06 - $20.52	$25,100 - $42,700
Michigan	$14.18	$29,500	$9.97 - $17.38	$20,700 - $36,200

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	66,350	67,700	2%	1,800
Michigan	2,400	4,000	65%	210

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Welders and cutters
State: Michigan
Typical Educational Level: Post-Secondary vocational training
Description: Use hand-welding and flame-cutting equipment, such as arc welders, gas welders, and gas torches, to weld together metal components of such products as pipelines, automobiles, boilers, and ships; to join together components of fabricated sheet metal assemblies; or to cut, trim, or scarf metal objects to dimensions, as specified by layout, work orders, or blueprints.

Wages and Trends: Welders and cutters

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$11.17	$23,200	$9.35 - $13.98	$19,400 - $29,100
Michigan	$11.23	$23,400	$9.42 - $16.56	$19,600 - $34,400

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	313,600	316,150	1%	7,960
Michigan	14,400	15,200	6%	420

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Janitors and cleaners, except maids and housekeeping cleaners
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as operating motor-driven cleaning equipment, mopping floors, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs and additions, and cleaning snow or debris from sidewalk.

Wages and Trends: **Occupation:** Janitors and cleaners, including maids and housekeeping cleaners, which also incorporates:

- Maids and housekeeping cleaners
- **Janitors and cleaners, except maids and housekeeping cleaners**

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$6.92	$14,400	$5.54 - $8.52	$11,500 - $17,700
Michigan	$7.48	$15,600	$5.76 - $10.11	$12,000 - $21,000

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	3,042,750	3,601,950	18%	103,630
Michigan	97,250	103,100	6%	2,290

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Laborers, landscaping and groundskeeping
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: Landscape and/or maintain grounds of property using hand or power tools or equipment. May work in nursery facility or at customer location. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, and sprinkler installation. Workers may help brick and stone masons.

Wages and Trends: **Occupation:** Gardeners, nursery workers and laborers, landscaping and groundskeeping, which also incorporates:

- Laborers, landscaping and groundskeeping

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$7.87	$16,400	$6.26 - $10.16	$13,000 - $21,100
Michigan	$7.41	$15,400	$5.91 - $9.50	$12,300 - $19,800

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	-	-	-	-
Michigan	-	-	-	-

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Pruners
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: Prune and treat ornamental and shade trees and shrubs in yards and parks to improve their appearance, health, and value. Cut away dead and excess branches from trees using handsaws, pruning hooks, sheers, and clippers. May use truck-mounted hydraulic lifts and power pruners. May scrape decayed matter from cavities in trees and fill holes with cement to promote healing and prevent further deterioration. Exclude workers who also perform duties of Sprayers/Applicators or Lawn Maintenance Workers.

Wages and Trends: Pruners

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$10.52	$21,900	$8.60 - $12.63	$17,900 - $26,300
Michigan	$9.38	$19,500	$5.70 - $11.88	$11,900 - $24,700

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	25,900	34,200	32%	1,270
Michigan	1,250	1,750	41%	70

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Sprayers/applicators
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Spray herbicides, pesticides, and fungicides on trees, shrubs, and lawns using hoses and truck-mounted tank. Fill sprayer tank with water and chemicals according to prescribed formula. May use portable spray equipment. Exclude workers who also perform duties of Lawn Maintenance Workers or Pruners.

Wages and Trends: Sprayers/applicators

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$9.54	$19,800	$7.64 - $11.33	$15,900 - $23,600
Michigan	$11.02	$22,900	$9.89 - $12.86	$20,600 - $26,700

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	15,300	20,150	32%	630
Michigan	700	950	41%	30

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Opticians, dispensing and measuring
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames. Verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Include Contact Lens Opticians.

Wages and Trends: Opticians, dispensing and measuring

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$10.07	$20,900	$7.86 - $12.85	$16,300 - $26,700
Michigan	$9.34	$19,400	$7.63 - $11.21	$15,900 - $23,300

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	62,550	75,850	21%	2,580
Michigan	2,700	3,200	18%	110

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Food preparation workers
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: Perform a variety of food preparation duties, such as preparing cold foods and maintaining and cleaning kitchen work areas, equipment, and utensils. Perform simple tasks such as preparing shellfish or slicing meat. May brew coffee and tea or prepare sandwiches.

Wages and Trends: Food preparation workers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$6.04	$12,600	$5.30 - $7.75	$11,000 - $16,100
Michigan	$6.61	$13,700	$5.48 - $7.98	$11,400 - $16,600

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	1,190,500	1,377,900	16%	25,590
Michigan	52,250	59,500	14%	1,260

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Combined food preparation and service workers
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: Perform duties which combine both food preparation and food service. Workers who spend more than 80 percent of their time in one job should be reported in that occupation.

Wages and Trends: **Occupation:** Food counter, fountain, and related workers, which also incorporates:

- Food servers, outside
- Counter attendants - lunchroom, coffee shop, or cafeteria
- **Combined food preparation and service workers**

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$5.51	$11,500	$5.14 - $6.64	$10,700 - $13,800
Michigan	$5.74	$11,900	$5.24 - $7.59	$10,900 - $15,800

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	1,629,600	1,669,450	2%	42,130
Michigan	65,900	66,800	1%	2,040

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Cooks, fast food
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: Prepare and cook food in a fast food restaurant with a limited menu. Duties of the cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment.

Wages and Trends: **Occupation:** Cooks, short order and fast food, which also incorporates:

- **Cooks, fast food**
- Cooks, short order

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$5.58	$11,600	$5.17 - $6.95	$10,800 - $14,500
Michigan	$5.58	$11,600	$5.16 - $7.06	$10,700 - $14,700

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	760,450	869,200	14%	26,990
Michigan	21,050	24,650	17%	860

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Cooks, institution or cafeteria
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Prepare and cook family-style meals for institutions such as schools, hospitals, or cafeterias. Usually prepare meals in large quantities rather than to individual order. May cook for employees in office building or other large facility.

Wages and Trends: Cooks, institution or cafeteria

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$7.31	$15,200	$5.74 - $9.12	$11,900 - $19,000
Michigan	$8.57	$17,800	$6.84 - $9.78	$14,200 - $20,300

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	412,000	434,700	6%	11,330
Michigan	11,650	11,400	-2%	290

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

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Occupation Report

Occupation: Cooks, restaurant
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Prepare, season, and cook soups, meats, vegetables, desserts, and other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

Wages and Trends: Cooks, restaurant

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$7.28	$15,100	$5.86 - $8.86	$12,200 - $18,400
Michigan	$6.85	$14,200	$5.77 - $7.93	$12,000 - $16,500

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	703,550	826,600	17%	27,020
Michigan	21,450	26,000	21%	950

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Brickmasons
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Lay building materials, such as brick, structural tile, concrete, cinder, glass, gypsum, and terra cotta block (except stone), to construct or repair walls, partitions, arches, sewers, and other structures. Include Refractory Brickmasons.

Wages and Trends: **Occupation:** Bricklayers and stone masons, which also incorporates:

- **Brickmasons**
- Stonemasons

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$16.43	$34,200	$12.76 - $20.62	$26,500 - $42,900
Michigan	$16.86	$35,100	$13.12 - $19.72	$27,300 - $41,000

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	146,900	161,550	10%	3,890
Michigan	4,750	4,350	-8%	80

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Carpenters
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Construct, erect, install and repair structures, fixtures, and equipment of wood, plywood, and wallboard, using carpentry tools and woodworking machines.

Wages and Trends: **Occupation:** Carpenters, which also incorporates:

- **Carpenters**
- Brattice builders

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$13.04	$27,100	$10.34 - $17.87	$21,500 - $37,200
Michigan	$15.08	$31,400	$11.10 - $21.06	$23,100 - $43,800

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	991,900	1,073,800	8%	26,350
Michigan	27,000	30,000	11%	760

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Carpet installers
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Lay carpets or rugs in homes or buildings. Exclude workers who lay linoleum.

Wages and Trends: Carpet installers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$12.46	$25,900	$9.43 - $18.90	$19,600 - $39,300
Michigan	$13.15	$27,400	$9.49 - $20.80	$19,700 - $43,300

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	66,150	72,250	9%	2,530
Michigan	1,850	2,000	8%	70

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Ceiling tile installers and acoustical carpenters
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality. Exclude carpet, wood, or hard tile installers.

Wages and Trends: Ceiling tile installers and acoustical carpenters

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$14.24	$29,600	$11.05 - $18.72	$23,000 - $38,900
Michigan	-	-	-	-

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	15,950	14,350	-10%	300
Michigan	350	300	-13%	10

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Drywall installers
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Apply plasterboard or other wallboard to ceilings and interior walls of buildings.

Wages and Trends: **Occupation:** Drywall installers and finishers, which also incorporates:

- **Drywall installers**
- Tapers
- Lathers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$14.10	$29,300	$11.15 - $19.15	$23,200 - $39,800
Michigan	$16.81	$35,000	$11.91 - $18.69	$24,800 - $38,900

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	133,200	142,600	7%	4,590
Michigan	2,450	2,500	2%	70

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Hard tile setters
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Apply hard tile to walls, floors, ceilings, and other areas following design specifications.

Wages and Trends: Hard tile setters

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$15.44	$32,100	$11.69 - $18.42	$24,300 - $38,300
Michigan	-	-	-	-

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	27,300	27,600	1%	630
Michigan	1,050	1,100	6%	30

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Pipelaying fitters
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Align pipeline section in preparation of welding. Signal tractor driver for placement of pipeline sections in proper alignment. Insert steel spacer.

Wages and Trends: **Occupation:** Pipelayers and pipelaying fitters, which also incorporates:

- **Pipelaying fitters**
- Pipelayers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$11.20	$23,300	$8.93 - $16.30	$18,600 - $33,900
Michigan	$18.84	$39,200	$14.24 - $21.60	$29,600 - $44,900

Note: The annual wage is based on a 40-hour work week for 52 weeks (year)

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	56,750	63,500	12%	2,050
Michigan	1,450	1,900	32%	80

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Plumbers, pipefitters, and steamfitters
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Assemble, install, alter, and repair pipe systems (metal, plastic, ceramic, composition, etc.) that carry water, steam, air, or other liquids or gases.

Wages and Trends: Plumbers, pipefitters, and steamfitters

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$15.32	$31,900	$11.88 - $20.61	$24,700 - $42,900
Michigan	$21.00	$43,700	$17.00 - $23.66	$35,400 - $49,200

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	374,900	389,900	4%	8,410
Michigan	12,000	12,950	8%	300

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Plasterers and stucco masons
State: Michigan
Typical Educational Level: Long-term on-the-job training
Description: Apply coats of plaster onto interior or exterior walls, ceilings, or partitions of buildings to produce finished surface according to blueprints, architect's drawings, or oral instructions.

Wages and Trends: Plasterers and stucco masons

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$13.27	$27,600	$10.79 - $16.79	$22,400 - $34,900
Michigan	$20.99	$43,700	$19.38 - $22.59	$40,300 - $47,000

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	29,900	33,300	11%	960
Michigan	250	300	6%	10

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Roofers
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Cover roofs of structures with slate, asphalt, aluminum, wood, and related materials using brushes, knives, punches, hammers, and other tools. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.

Wages and Trends: Roofers

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$11.43	$23,800	$9.13 - $15.47	$19,000 - $32,200
Michigan	$13.03	$27,100	$8.96 - $20.36	$18,600 - $42,300

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	126,350	142,950	13%	3,780
Michigan	3,300	3,650	11%	100

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Helpers, all other construction trades workers
State: Michigan
Typical Educational Level: Short-term on-the-job training
Description: All other construction trades helpers not classified separately above.

Wages and Trends: **Occupation:** Helpers, construction trades, which also incorporates:

- Helpers, brick and stonemasons and hard tile setters
- Helpers, carpenters and related workers
- Helpers, electricians and power-line transmission installers
- Helpers, painters, paperhangers, plasterers, and stucco masons
- Helpers, plumbers, pipefitters, and steamfitters
- Helpers, roofers
- **Helpers, all other construction trades workers**

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$8.97	$18,700	$7.13 - $11.04	$14,800 - $23,000
Michigan	$10.52	$21,900	$8.25 - $13.73	$17,200 - $28,600

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	513,100	580,650	13%	21,820
Michigan	8,400	9,250	10%	270

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Printing press machine operators and tenders
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Operate or tend various types of printing machines, such as offset lithographic presses, letter or letterset presses, flexographic or gravure presses, to produce print on paper or other materials such as plastic, cloth, or rubber.

Wages and Trends: **Occupation:** Printing press machine setters, operators and tenders, which also incorporates:

- **Printing press machine operators and tenders**
- Printing press machine setters and set-up operators

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$11.66	$24,300	$9.07 - $14.87	$18,900 - $30,900
Michigan	$11.62	$24,200	$8.75 - $14.04	$18,200 - $29,200

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	112,750	119,200	6%	2,830
Michigan	1,850	2,100	12%	60

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Crushing, grinding, mixing, and blending machine operators and tenders
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Crushing, Grinding, and Polishing Machine Operators and Tenders: Operate or tend machines to crush or grind any of a wide variety of materials, such as coal, glass, plastic, dried fruit, grain, stone, chemicals, food, or rubber; or operate or tend machines that buff and polish materials or products, such as stone, glass, slate, plastic or metal trim, bowling balls, or eyeglasses. Mixing and Blending Machine Operators and Tenders: Operate or tend machines to mix or blend any of a wide variety of materials, such as spices, dough batter, tobacco, fruit juices, chemicals, livestock feed, food products, color pigments, or explosive ingredients.

Wages and Trends: Crushing, grinding, mixing, and blending machine operators and tenders

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$10.01	$20,800	$7.80 - $12.73	$16,200 - $26,500
Michigan	$10.56	$22,000	$8.77 - $12.23	$18,200 - $25,400

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	136,650	135,750	-1%	3,260
Michigan	5,700	5,800	2%	140

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Printing press machine setters and set-up operators
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Set up or set up and operate various types of printing machines, such as offset lithographic presses, letter or letterset presses, flexographic presses, or gravure presses, to produce printed material such as books, manuals, or pamphlets.

Wages and Trends: **Occupation:** Printing press machine setters, operators and tenders, which also incorporates:

- Printing press machine operators and tenders
- **Printing press machine setters and set-up operators**

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$11.66	$24,300	$9.07 - $14.87	$18,900 - $30,900
Michigan	$11.62	$24,200	$8.75 - $14.04	$18,200 - $29,200

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	112,750	119,200	6%	2,830
Michigan	1,850	2,100	12%	60

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission

Occupation Report

Occupation: Letterpress setters and set-up operators
State: Michigan
Typical Educational Level: Moderate-term on-the-job training
Description: Set up or set up and operate direct relief letterpresses, either sheet or roll (web) fed, to produce single or multicolor printed material, such as newspapers, books, and periodicals.

Wages and Trends: Letterpress setters and set-up operators

Wages:

Location	Median, 1996		Midrange, 1996	
	hourly	annual	hourly	annual
United States	$12.47	$25,900	$10.06 - $17.03	$20,900 - $35,400
Michigan	-	-	-	-

Note: The annual wage is based on a 40-hour work week for 52 weeks (year).

Source: Bureau of Labor Statistics, 1996; Michigan Jobs Commission

Trends:

Location	Employment		Percent change	Average annual job openings (due to growth and net replacement)
	1994	2005		
United States	13,550	3,900	-71%	270
Michigan	450	100	-71%	10

Source: Bureau of Labor Statistics, 1994; Michigan Jobs Commission